DOCUMENT RESUME

ED 216 623 HE 015 074

TITLE	Report of the Governor's Commission on Higher Education and the Economy, January 1982.
INSTITUTION	Governor's Blue Ribbon Commission on Higher Education and the Economy of Connecticut, Inc., Hartford.
PUB DATE	Jan 82
NOTE	150p.
AVAILABLE FROM	Board of Higher Education for the Governor's Commission on Higher Education and the Economy, 61 Woodland Street, Hartford, CT 06105.
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Academic Standards; Accessibility (for Disabled); *Access to Education; Articulation (Education); Board of Education Role; Budgeting; Campus Planning; *College Planning; Cooperative Education; Educational Economics; Educational Facilities Planning; Educational Quality; Educational Technology; Education Work Relationship; Financial Support; *Governance; *Higher Education; Minority Groups; Needs Assessment; School Business Relationship; *State Boards of Education; Student Financial Aid; Tuition
IDENTIFIERS	*Blue Ribbon Commissions; *Connecticut

ABSTRACT

The Governor's Commission on Higher Education and the Economy's assessment of the Connecticut system and ways that the educational needs of the economy and the state can be met during a period of declining enrollments and fiscal constraints is presented. Working committees of the commission studied governance and management; business, labor, and education; and academic quality and access. The needs assessment included public hearings. Specific areas of concern include: governance, planning and budgeting, facility/capital plans, operating plans, special plans, skilled labor requirements, education for employment, cooperative programs, apprenticeship programs, academic standards, funding adequacy, tuition and financial assistance, minority access to higher education, access for the handicapped, transfer from two-year to four-year institutions, educational technology, and innovative programs. Among the commission recommendations are the following: replacement of the Board of Higher Education by an 11-member Board of Governors composed exclusively of public members with no ties to state or independent Connecticut colleges; the development of a comprehensive management and budgeting process that includes five-year operating plans; the establishment of a Committee on Technological Change that would help analyze long-term employment trends; and indexing tuition and financial assistance to inflation. Appendices include a summary of studies and actions addressing problems of higher education in Connecticut; information on enrollments, capacity utilization and full-time enrollment for specific colleges, tenure, responsibilities of the Board of Higher Education and the proposed Board of Governors, average faculty salaries, and tuition and fees. (SW)

ED216623

Report of The Governor's Commission on Higher Education and the Economy

January 1982

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The Governor's Blue Ribbon Commission
on Higher Education and the Economy of Connecticut, Inc.

January 29, 1982

The Honorable William A. O'Neill
Governor
State of Connecticut
State Capitol
Hartford, Connecticut 06115

Dear Governor O'Neill:

On behalf of the Governor's Commission on Higher Education and the Economy, I am pleased to transmit herewith our report, which was approved today.

This Commission was appointed by you July 23, 1981, with the request "to develop ways and means by which Connecticut's institutions of higher education can meet the challenging demands of the 1980s," and "to recommend new directions and guidelines for the revitalization of higher education in Connecticut." Despite the relatively short time we have had to accomplish this considerable task, the Commission feels it has fulfilled your charge.

The Commission has met its deadline due in large part to the exceptional support it received from the education community, from state agencies and from all others upon whom we called for advice and assistance.

The members of the Commission, despite heavy career responsibilities and busy work schedules, accepted this assignment from you and applied themselves assiduously to the task. They brought a variety of talents, backgrounds and points of view to the Commission deliberations. Despite some differences among the Commissioners, which are understandable in view of the complexities of the issues, the agreements far outnumbered the differences. Everybody worked in good faith to produce the final report. The Commissioners trust that this document will benefit Connecticut's higher education and the people of this state today and for years to come.

Sincerely,

DeRoy C. Thomas

DeRoy C. Thomas
Chairman

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ACKNOWLEDGMENTS

Many individuals and organizations contributed support, time and talent to the work of the Governor's Commission on Higher Education and the Economy.

Special thanks for generous support go to the State of Connecticut; Connecticut State Labor Council, AFL-CIO; the Connecticut Board of Higher Education; the Connecticut Business and Industry Association; the Ford Foundation; the Hartford Foundation for Public Giving; the Hartford Insurance Group; International Telephone and Telegraph Corporation; New Haven Foundation; Northeast Utilities; Southern New England Telephone Company; and United Technologies Corporation.

The Commission's staff members, liaison officers and consultants put in many hours of service to the cause of improving higher education in Connecticut.

Research associates included: Merle W. Harris, assistant commissioner, Board of Higher Education, liaison on higher education; Alfred H. Horowitz, retired director of research and information, Connecticut Labor Department, liaison on labor; Donnie Perkins, assistant to the commissioner, minority affairs, Board of Higher Education, liaison on minorities; Anne Wingate, vice president for planning and research, Connecticut Business and Industry Association, liaison on business.

Designated liaison officers to the Commission included: George Harris, deputy director, state technical colleges; Thomas A. Porter, executive officer for academic and student affairs, Connecticut state colleges; Glenn Rosenberg, director of budget, development and management, University of Connecticut; Bernard Shea, executive director, Board for State Academic Awards; Elaine Stewart, academic officer, regional community colleges; Margaret Tedone, acting president, Connecticut Conference of Independent Colleges; Lois Torrence, director of institutional research, University of Connecticut.

Consultants to the Commission included: Arthur C. Banks, Jr., president, Greater Hartford Community College; James Bess, professor of education, New York University; Alfred Bridges, director of admissions, Trenton State College; Geoffrey W. Furtney, secretary and economist, the Hartford Insurance Group; Michael Gillespie, human resources planning manager, Manufacturers Hanover Trust; Andrew Goodrich, director of educational assistance programs, associate professor, College of Education, University of Illinois; Samuel Gould, former acting commissioner of higher education in Connecticut; Alice Jacobson, assistant to the president, Malcolm-King College; Anne B. Kraig, executive director, Southwestern Connecticut Work/Education Council; Robert Maloy, director of libraries, Smithsonian Institution Libraries; Nan S. Robinson, vice president for administration, the Rockefeller Foundation; Alfred R. Rogers, manager-Hartford district, Northeast Utilities; Donald W. Siegrist, economic research analyst, the Hartford Insurance Group; Michael Usdan, president, The Institute for Educational Leadership, Inc.

Many distinguished individuals with a wealth of experience in Connecticut higher education accepted invitations to speak or submit testimony at public hearings held by the Commission. They included: Colin G. Campbell, president,

Wesleyan University; Searle F. Charles, executive director, regional community colleges; Vincent S. Darnowski, president, Housatonic Community College; Lawrence J. Davidson, chairman of the board of trustees, Connecticut state colleges; John A. DiBiaggio, president, University of Connecticut; Kenneth E. DeRego, president, Hartford State Technical College; Henry E. Fagan, chairman of the board of trustees, regional community colleges; Stephen Feldman, president, Western Connecticut State College.

Also, James Frost, executive director, Connecticut state colleges; Richard Gamble, group vice president, United Technologies, and member, board of trustees, University of Connecticut; A. Bartlett Giamatti, president, Yale University; Charles B. Gilbert, III, chairman of the board of trustees, state technical colleges; Norma Foreman Glasgow, commissioner of higher education; Keith Hook, chairman, Board of Higher Education; W. Lewis Hyde, executive director, board of trustees, state technical colleges; F. Don James, president, Central Connecticut State College; Gerald Lamb, senior vice president, Connecticut Bank and Trust Company and chairman of the Board for State Academic Awards.

Also, Alice Letteney, professor of English, Quinebaug Valley Community College; Kathleen McCrory, vice president for academic affairs, Eastern Connecticut State College; James Movahill, vice president for health affairs and executive director of the University of Connecticut Health Center; Frank Rich, Jr., vice chairman, board of trustees, University of Connecticut; Thomas J. Sullivan, president, Greater New Haven State Technical College; Richard M. Turner, president, South Central Community College; William E. Vincent, president, Manchester Community College; Donald R. Welter, president, Thames Valley State Technical College.

In addition to testimony prepared at the request of the Commission and read at the public hearings, the committees and staff of the Commission received numerous letters commenting thoughtfully on issues. Virtually every institution of higher education and dozens of businesses in the state, as well as agencies concerned with education, supplied helpful information and opinion, some solicited and some at the authors' initiative. While not all of these contributions have been cited individually in this report, all were carefully considered and were of inestimable value.

Research assistance was provided by Leslie Bernstein, Deena S. Cohen, Ellen D. Doherty, Esther Elias, Denise Mangiulli, Mary Ellen Stanwick and Laurie Wechsler.

Manuscript preparation was a challenging task that often proceeded long after regular business hours. Individuals to be commended for undertaking this assignment included Sally Bartlett, Nicholas Carr, Adela French, Barbara Jordan, Marion Kavanaugh and Denise MacGillavry. Additional secretarial help was provided by Marion Arnone and Kathy Faniel.

Special thanks go to Barbara Baird Ryan, director, Editorial Associates, Middletown, Connecticut. She provided overall editorial direction for this report, and her contributions, in the opinion of those who worked with her, were superb.

Finally, much of the compiling of this report reflects the consummate skills of Eric Rennie, whose abilities as writer, editor, researcher, arbitrator and conceptual interpreter mark him as a man apart.

SUMMARY

Connecticut's public higher education system made rapid progress during a period of expanding enrollments and financial resources in the 1960s. Now the system must adapt to much less favorable circumstances in the coming decade. A projected 36 percent decline in the college-age population by 1990 could have a serious impact on enrollments within the system. There are indications that a significant number of institutions are already operating substantially below capacity as a result of the rapid proliferation of new campuses in the 1960s and the overexpansion of older facilities. Because of fiscal constraints, many are inadequately maintained and equipped and are understaffed in critical academic support and service areas.

These problems are occurring at a time when the state colleges and university have been restructuring their programs to accommodate a shift in student demand toward career education. Much has been accomplished despite limited resources that, in many cases, have forced the colleges to put a ceiling on enrollments in business and technical programs. High concentrations of tenured faculty in certain institutions and academic disciplines are also limiting the ability to reallocate resources in response to the changing needs of students and society.

The fact that Connecticut's public higher education institutions were not organized as a system until 1965 accounts for many of the structural and operational weaknesses identified in earlier studies. These problems include lack of planning and coordination, antiquated budgeting procedures, administrative inefficiencies and wasteful duplication of programs--all of which become even more burdensome when there are not enough students or dollars to go around. The danger now is that both public and private colleges may become embroiled in a destructive competition for dwindling resources that could result in the erosion of admissions standards, academic quality and, ultimately, institutional purpose.

The Governor's Blue Ribbon Commission on Higher Education and the Economy undertook an intensive study of the system to determine how the educational needs of the economy and the state can be met during a period of declining enrollments and fiscal constraints. The Commission concludes that, although the problems are severe, an opportunity exists to build a system that is leaner, better managed and more responsive to change.

Governance and Management

The present Board of Higher Education (BHE) has broad statutory authority to formulate policy but few powers of implementation. In addition, the board's large size (22 members) and its composition, which includes representatives of the various constituent units of the higher education system, often have prevented it from providing clear direction for the system as a whole. As a result, the BHE has made little headway in solving the problems that led to its formation in 1977.

The Commission recommends that the Board of Higher Education be replaced by an 11-member Board of Governors composed exclusively of public members with no ties to state or independent colleges in Connecticut. The Board of

Governors would have specific powers to implement systemwide planning and budgeting, to oversee budget implementation, to terminate unproductive or duplicative programs, and to merge or close institutions that are no longer viable. The Commission believes that these steps would strengthen the system without major structural changes or additional expense. The constituent boards of trustees would remain the primary coordinating units for their respective institutions.

The Commission concluded that many of the problems attributed to Connecticut's decentralized higher education system are the result of deficiencies in management procedures. Connecticut lags years behind other states in the development of long-range planning, budgeting and management information systems. The Commission recommends a comprehensive management and budgeting process that includes five-year operating plans updated annually and linked to cost-based budgeting; a five-year facilities/capital plan; and a special planning process to respond to serious operational problems within an institution. The Commission believes that such a system will ensure that resources are efficiently allocated to the most productive institutions and programs without impinging on programs that are integral to institutional missions.

Business, Labor and Education

The shortage of skilled labor in Connecticut and problems caused by poor academic preparation have been addressed in a series of studies by various state agencies and private industry groups. A number of remedies have been proposed, and many have been adopted. As a result, although problems remain, substantial progress has been made within the last few years.

Many cooperative programs are now underway among business, labor and education. But no framework currently exists to coordinate such efforts or to relate them to the educational needs of the state. The higher education system has little capability of analyzing long-term employment trends and how these might be affected by social, scientific and technological change. The Commission proposes that this capacity might be improved through a Committee on Technological Change to be appointed by the governor. The Commission offers recommendations for improving cooperation and communication among business, labor and education, and proposes improvements in career counseling and accreditation of apprenticeship programs.

Academic Quality and Access

The Commission studied a broad range of issues related to the quality of public higher education in Connecticut and access by minority, handicapped and transfer students, as well as by students in different regions in the state.

The Commission recommends that problems of declining admissions standards and academic quality be addressed through an admissions "floor" for senior institutions and technical colleges, as well as minimum course requirements

for incoming freshmen and basic skills testing at all public institutions. All students, including those in degree programs at open-access community colleges, would be examined on their mastery of specified skills and knowledge at the end of their sophomore year. A recommendation is also made to strengthen teacher training programs on the secondary and primary levels.

Noting that tuitions for public institutions in Connecticut are low in relation to those in other states and lag behind rising costs, the Commission recommends that both tuitions and financial assistance be indexed to inflation. The Commission is particularly concerned about the impact of heavily subsidized public higher education on tuition-dependent private institutions that compete for the same students. Accordingly, the Commission recommends an immediate 25 percent increase in the base of support for financial assistance to students at independent colleges (Public Act 551) and the indexing of future appropriations under this program.

Although many of Connecticut's public institutions of higher learning are located in urban areas with large minority populations, Blacks and Hispanics are underrepresented in student populations, and attrition rates are high. Recruitment, counseling and education support services were found to be inadequate, and there are too few minorities on faculty and staff to serve as role models. The Commission recommends that the system develop a strategic plan to ensure that students, faculty and staff at every institution are representative of the racial and ethnic diversity of the total population, with goals, timetables and careful monitoring of results. An Office of Educational Opportunity is proposed to coordinate statewide efforts. The Commission also recommends a systemwide transfer agreement to eliminate current difficulties encountered by graduates of two-year institutions who attempt to transfer to upper-division programs.

Finally, the Commission investigated recent advances in data processing and telecommunications technology and their application to higher education. The Commission finds substantial capital investment in new technology is needed if Connecticut's public education system is to realize the potential for improved productivity and the more efficient delivery of educational services. The Commission also recommends that Connecticut set aside a special fund to initiate innovative programs.

# # #

SUMMARY OF RECOMMENDATIONS

The following is a list in summary form of recommendations proposed by the Governor's Commission on Higher Education and the Economy. Page references are included in parentheses after each summary recommendation to aid the reader in finding the complete text in the report.

The Commission recommends that:

Governance and Management

1. A Board of Governors be appointed to serve as the central policy-making and administrative authority for higher education in Connecticut. Members serve staggered four-year terms and be representative of the state's diversity. No member be employed by or serve on the governing body of a public or private college or university in the state (p. 19).

2. The Board of Governors be served by the existing Board of Higher Education staff, to be renamed the Department of Higher Education, under the direction of the Commissioner of Higher Education (p. 19).

3. The Board of Governors have broad statutory powers including policy making, planning, budget making and allocation, and merging, closure or termination of campuses and academic programs (p. 19).

4. Constituent unit boards have statutory powers for awarding degrees, recommending new academic programs and developing budgets. The constituent boards also make personnel decisions, negotiate collective bargaining agreements and plan and maintain physical plants (p. 20).

5. The Board of Governors develop a comprehensive planning, budgeting and management information system for the public higher education system in Connecticut to be operational within 2-1/2 years (p. 24).

6. The planning process consist of five-year operating plans updated annually, five-year facility/capital plans updated annually and special plans to address problems identified by specific institutional stress indicators (pp. 24, 25).

7. The Board of Governors develop a formula- and/or program-based budgeting system for each institution to use in preparing operating budgets. The Board of Governors review institutional budgets and prepare a consolidated budget for use by the governor and General Assembly in appropriating funds (p. 25).

8. State funds for public higher education be appropriated to the Board of Governors for allocation to the constituent units and institutions. The Board of Governors be responsible for determining how any rescissions are to be borne by each constituent unit and institution (p. 25).

9. A Department of Higher Education task force work with the Office of Policy and Management to reduce reliance on pre-audit controls (p. 25).

10. The Board of Governors submit to the legislature a request for staff and data processing support to create a data processing system capable of providing management information needed for planning and budgeting (p. 25).

11. The Board of Governors have final approval of all public higher education capital expenditure requests before submission to the state bonding commission (p. 25).

Business, Labor and Education

12. The governor annually appoint a Committee on Technological Change that will investigate and report on technological change and its effect on employment opportunities in Connecticut (p. 34).

13. The governor request the Connecticut Academy of Science and Engineering to create a committee to determine what areas of technology with high-growth potential are appropriate to Connecticut (p. 34).

14. The governor request the Connecticut Academy of Science and Engineering to establish a clearinghouse for information about scientific research being conducted at higher education institutions in Connecticut (p. 34).

15. The Department of Labor, State Board of Education and Department of Higher Education integrate their employment information services into a comprehensive statewide system providing counseling as well as job-matching services at each Job Service Office (p. 34).

16. The Board of Governors and the State Board of Education, working with representatives of business and labor, develop additional programs to allow teachers and students to work directly with business and industry to learn about their needs and operations (p. 34).

17. The Board of Governors, in conjunction with the Connecticut Labor Department and specific program sponsors, study the feasibility of awarding college credit for apprenticeship programs (p. 35).

Academic Quality and Access

18. The Board of Governors appoint a task force to recommend ways that academic standards can be maintained or upgraded at the state's public higher education institutions. The task force should consider development of academic profiles of entering classes to be used as the basis to develop goals to maintain or improve academic characteristics of future classes (p. 40).

19. The Board of Governors select or develop a basic skills test to be taken by all students admitted to the state's public higher education institutions (p. 40).

20. The Board of Governors select or develop an examination or other method of measuring competency in essential skills that must be mastered by students upon completion of their sophomore year at a public higher education institution (p. 41).

21. The Board of Governors and the State Board of Education undertake a thorough review of criteria and procedures for approval and development of teacher training programs. The State Board of Education also explore methods of attracting high-quality students to the teaching profession (p. 41).

22. Tuition for each of the constituent units be adjusted each year by a percentage equal to the change in the Higher Education Price Index (HEPI) for the previous fiscal year. Fee structure to be examined by Board of Governors (p. 45).

23. Statutes be modified to allow tuition waivers for part-time as well as full-time in-state students who demonstrate financial need and who are enrolled in degree programs (p. 45).

24. Funding for financial aid programs, including grants to students at independent colleges (Public Act 551), be adjusted annually by a percentage equal to the change in the Higher Education Price Index for the previous fiscal year. Funding for Public Act 551 should be increased the first year by 25 percent (p. 45).

25. The Board of Governors be funded for an Office of Educational Opportunity to carry out statewide efforts to increase enrollment, retention and graduation of disadvantaged students, as well as to ensure that faculty, administrators and other staff are representative of the diversity of population (p. 49).

26. The Board of Governors develop a strategic plan to ensure that students, faculty, administrators and staff at each campus are representative of the racial and ethnic diversity of the total population (p. 49).

27. The Board of Governors make a major report annually to the General Assembly on these activities, including goals, plans and corrective actions to ensure that goals are achieved (p. 50).

28. The Board of Governors explore opportunities for greater regional cooperation and include them in long-range plans for more efficient allocation of resources (p. 50).

29. The Board of Governors develop a comprehensive statewide transfer agreement among the university, state colleges, community colleges and technical colleges (p. 50).

30. The Department of Higher Education develop long-range capital and operating plans for telecommunications and data processing technology (p. 51).

31. Investment in needed instructional technology and computer-based and library systems be a priority in capital/facilities planning (p. 51).

32. A Joint Council on Educational Technology be legislatively established and charged with coordination of educational technology in Connecticut (p. 51).

33. A discretionary fund, administered by the Board of Governors, be established to provide funds to initiate innovative programs at Connecticut public institutions (p. 52).

# # #

I. INTRODUCTION

Connecticut has an old and distinguished tradition of private higher education and a relatively new public higher education system that has grown rapidly in the last two decades. Together they enroll slightly fewer than half of the state's college-bound high school graduates.[1] The remainder matriculate out of state, mostly to private colleges and universities. These characteristics, although not unique to Connecticut, are far from typical of other states.[2] Indeed, they may be the key to an understanding of the system and its problems, and could to a large extent influence the system's ability to respond to the challenges of the next decade.

For many years, private colleges and universities, some of which enjoy national reputations for excellence, were in the forefront of higher education in Connecticut. The state's 24 independent colleges include four four-year national institutions, 16 regional four-year institutions and four two-year institutions. (See appendix I-A.) Combined enrollments (including students from out of state) grew 21.7 percent from 1971 to 1980 and accounted for 39.2 percent of all students attending Connecticut colleges in 1980.[3]

The number of out-of-state students attracted to public or private colleges in Connecticut is small compared with the exodus of Connecticut students to colleges out of state. In the fall of 1980, 50.5 percent of college-bound high school graduates matriculated out-of-state, compared with 36.2 percent who attended state public institutions and 13.3 percent who attended independent colleges and universities in Connecticut.[4] Among all states, Connecticut has consistently ranked with the top five as a net exporter of students.[5]

Connecticut's public higher education system has four major constituent units: 1.) the University of Connecticut (including the main campus at Storrs, five two-year branch campuses and several off-campus professional schools); 2.) four state colleges; 3.) 12 regional community colleges; and 4.) five two-year technical colleges. Each of these constituent units is governed by its own board of trustees. A fifth constituent unit, called the Board for State Academic Awards, is responsible for granting external degrees through examinations and validation of prior college credits.

Administrators of Connecticut's public colleges and university point out that theirs is a relatively young system that has undergone dramatic growth and change in a short span of time.[6] UConn, for example, began as a two-year agricultural school in 1881 and did not award its first doctoral degree until 1949. Since then it has developed into a major research university, ranking 70th among 316 public and private postgraduate institutions in the number of Ph.D. degrees awarded and 41st in total research support.[7] Growth of the university has been so rapid that nearly half of all its graduates have received their degrees since 1971.[8]

The state colleges were organized in the 19th and early 20th centuries as two-year "normal" schools and later expanded into four-year teachers' colleges.[9] Since 1959, they have developed into multipurpose educational institutions offering a wide range of liberal arts and career programs, in addition to teacher education.[10] Today, they are the largest single source of bachelor's and master's degrees within the state system.[11]

With the exception of the state technical college in Hartford, which traces its origins back to a pilot program in 1946, all the two-year institutions have been founded since 1960.[12] The community colleges have proved to be highly resourceful in reaching out not only to traditional college-age students but also to growing numbers of adult learners with a broad range of educational and community service programs. The state technical colleges are playing an increasingly important role in preparing students for technical careers as the state's economy shifts from traditional heavy manufacturing toward high-technology industry.

The enormous growth in the size and scope of Connecticut's public higher education system has not been without its problems. These have been exhaustively analyzed by a succession of study commissions, legislative committees and executive agencies since 1964 (see appendix I-B). The problems include lack of coordination among institutions and constituent units; wasteful duplication of academic programs and services; inequitable tuition, financial aid and transfer policies; insufficient minority representation among students and faculty; capital expenditures unrelated to educational needs; administrative inefficiencies; and inadequate planning, budgeting and management procedures. Despite substantial progress in some areas, many problems have persisted.

Many of these problems are traceable to the fact that the various constituent units did not develop as a system. Indeed, they were not placed under a central coordinating agency until 1965 (the technical colleges remained under the State Board of Education until 1974). The coordinating powers of the central agency have been strengthened periodically since then as problems became apparent. However, basic problems of governance remain unresolved.

A Board of Higher Education (BHE), which replaced the earlier Commission for Higher Education in 1977, serves as the central policy-making and coordinating agency. The BHE is responsible for licensing and accreditation of programs and institutions within the public and private sectors. It also consolidates the capital expenditure and operating budgets of the constituent units for submission to the legislature. The board's membership includes public members appointed by the governor and legislature, as well as representives of each of the five constituent units, the state's independent colleges and the postsecondary proprietary institutions.

The Board of Higher Education was conceived as a compromise between decentralization and a strong governing authority. The enabling legislation grants the BHE broad policy-making authority but is notably less explicit in delineating its powers of implementation (see discussion in chapter III). As a result, the BHE has been unable to overcome many of the problems that led to its formation.

In a 1979 report to the legislature, the BHE observed that "the system of public higher education created in 1965 remains a fiction, a matter of statute and rhetoric rather than a reality. Rather than a coherent, economical and effective system for the delivery of postsecondary education, Connecticut currently struggles with a series of educational fiefdoms, each one measuring success in terms of budgets garnered, buildings constructed, faculty positions authorized and students enrolled. All too often one set of institutions views its needs and its activities in isolation from the other units and one unit's success is achieved at the expense of another."[13]

A system that evolved during an era of rapidly expanding enrollments and financial resources must now adapt to an entirely different set of circumstances. Connecticut's colleges and universities face a projected one-third decline in the number of high school graduates by 1990.[14] Moreover, a significant number of institutions already appear to be operating below capacity. Competition among public and private institutions for a dwindling supply of students will be accompanied by sharp cutbacks in federal block grants and student financial assistance.[15] These cuts, in turn, will place additional strains on the state budget at a time of massive reductions in federal funding for social programs across the board.

In an era of severely limited resources, the danger is that the instinct for institutional self-preservation will take precedence over the needs of students and society. This would most likely take the form of destructive competition, involving both public and private colleges, in which institutional missions would be distorted, academic standards diluted and innovative programs sacrificed. The situation has serious implications not only for an economy that depends on a well-educated and trained workforce but also for the future of a democratic society.

The Governor's Commission on Higher Education and the Economy is by no means the first to examine the problems of the higher education system in Connecticut, but it may offer the last chance to address those problems before opportunities are overtaken by events. The inexorable decline in student enrollments, which has already forced the closing of many primary and secondary schools, will alone force major readjustments in the system.

John Gardner has written that "we are all faced with a series of great opportunities, brilliantly disguised as insuperable problems."[16] The problems facing higher education in Connecticut can no longer be ignored without causing lasting harm to the system. Nonetheless, the opportunity exists to build a system that is leaner, better managed and more responsive to the broad educational needs of the state in the 1980s. The findings and recommendations of the Governor's Commission on Higher Education and the Economy are offered with that hope.

# # #

II. COMMISSION PROCEDURES

The Governor's Blue Ribbon Commission on Higher Education and the Economy was appointed by Gov. William A. O'Neill on July 23, 1981. The 17-member commission included leaders of business, labor, the professions and the community. The Commission was asked "to develop ways and means by which Connecticut's institutions of higher education can meet the challenging demands of the 1980s," and "to recommend new directions and guidelines for the revitalization of higher education in Connecticut," bearing in mind the twin traditions of excellence and diversity of the state's private and public institutions of higher learning.[1]

The Commission established three working committees along lines suggested by the governor's charge. The committees and the issues they examined are summarized as follows:

A. Governance and Management--Structure and governance of the public higher education system, planning and budgeting procedures, capital expenditures, and methods of identifying and responding to institutions in trouble.

B. Business, Labor and Education--Methods for improving cooperation and communication among business, labor and education; improved career counseling; and accreditation of apprenticeship programs.

C. Academic Quality and Access--Admissions and exit standards and academic quality; funding adequacy; tuitions and financial assistance; access of minorities, handicapped and transfer students; regional access; educational technology; and innovative programs.

Five public hearings were held at the state capitol during September and October (see appendix II). A major portion of each hearing was devoted to presentations by representatives of one of the various segments of higher education as follows: the state technical colleges, the regional community colleges, the four-year state colleges, the University of Connecticut and Board for State Academic Awards, the independent colleges and Board of Higher Education.

The Commission heard testimony from college administrators, trustees, faculty, collective bargaining representatives, students, legislators, business executives, management experts and private citizens. Extensive written testimony and documentation were submitted by the constituent units and colleges, as well as by other interested parties. In addition, Commission members held numerous informal discussions with educators, business and labor leaders and government officials. Commission staff members conducted their research in cooperation with designated representatives of each constituent unit, the Board of Higher Education and the independent colleges. They also drew on the expertise and advice of outside consultants and educators familiar with other states' higher education systems.

Each committee assembled "recommendation units" including background information, key findings and a summary of documentation in support of recommendations submitted to the full Commission. A draft report was

Each committee assembled "recommendation units" including background information, key findings and a summary of documentation in support of recommendations submitted to the full Commission. A draft report was prepared on the basis of preliminary recommendations approved by the Commission. This was returned to the Commission for discussion and then extensively revised. The final report was adopted by the Commission on January 29, 1982, for submission to the governor and legislature.

The report is structured to correspond with the work of each committee. Commission findings and recommendations are included in chapters III, IV, and V. Supporting documentation is included in appendices and notes in the back of this report.

On February 5, 1982, a minority report signed by five Commission members was submitted to the Commission chairman. That document is printed following chapter V of this Report of the Governor's Commission.

# # #

III. GOVERNANCE AND MANAGEMENT

A higher education system geared for growth must now adapt to an environment of declining enrollments and sharp cutbacks in state and federal funding.

The traditional college-age population is expected to decrease by more than one-third over the next decade and by as much as 43 percent through 1994.[1] To maintain current enrollment levels, the public colleges and university will have to recruit large numbers of "nontraditional" students, including retired people, foreign students, displaced homemakers and men and women contemplating mid-life career changes.[2] However, even if such students do materialize in sufficient numbers, many will attend part-time and will make new and costly demands on the system. They may require basic changes in institutional missions and expanded services in such areas as counseling, English as a second language and remediation. If these new sources of enrollment fail to materialize, the state's public and private colleges will face a serious--and, in some cases, critical--decline in enrollments by the end of this decade.[3]

The Commission examined demographic data for each public and private institution in Connecticut and attempted to determine the extent to which enrollment projections based on this data might be modified by such factors as freshman recruitment area, admissions standards, tuition levels and relative demand for available positions at each institution (see appendix III-A).

Even assuming a growing population of adult learners, the Commission concluded that the problem of declining enrollments is both more pervasive and potentially of greater magnitude than the demographic data alone would indicate. On the basis of demographic projections alone, two of four state colleges could sustain enrollment declines of 10 percent or more by 1990. However, when competition and other factors are considered, three of the four institutions are susceptible to even larger decreases in enrollment. The community colleges, which now benefit from an influx of adult learners, may face enrollment declines larger than anticipated as competition intensifies for applicants. While only one is expected to lose more than 10 percent of its enrollment on the basis of demographic projections, 11 of 12 institutions are vulnerable to sizable enrollment declines. Perhaps most vulnerable of all are the regional independent colleges, all but one of which are projected to lose students on the basis of demographics and a number of which could suffer further enrollment declines because of other factors.

The institutions that will be least affected by the decline in college-age population are those that are most selective, draw on the largest recruitment areas and are most favored in the competition for students. This would include UConn, the state technical colleges and the national independent institutions. All are expected to offset the decline in applicants to varying degrees.

Compounding the problem of declining enrollments is the fact that a number of public institutions may already be operating substantially below capacity (see appendix III-B). This is largely the result of the rapid proliferation of new

campuses in the 1960s and the overexpansion of older facilities. In such cases, political considerations sometimes outweighed a careful evaluation of educational need in arriving at a decision to build.[4]

The Commission calculated the capacity utilization of each public institution, using modified California standards for operating hours, room utilization and seat occupancy (see appendix III-B). By this measure, 15 of 27 campuses are operating below 75 percent capacity and seven (including four UConn branches) are now operating below 60 percent capacity. These projections are based on a number of variables and theoretical constructs and are by no means definitive. Nevertheless, they cast doubt that the supply of students during the next decade will be adequate to support the current number of public and private institutions in Connecticut.

There is further doubt whether financial resources will be sufficient to maintain the public higher education system at its present level (for a fuller discussion of this issue, see chapter V). State support for higher education has not grown at all in real terms over the last decade. Yet, with sizable cutbacks anticipated in federal student loans, block grants and other financial assistance programs, the state will soon be called upon to assume a larger share of the burden.

Limited resources have forced a number of public colleges to place a ceiling on enrollments for business administration, engineering, computer science and other programs (see appendix IV-C). Routine maintenance has been deferred at many campuses, which has led to expensive emergency repairs (for discussion of this and other effects of funding problems, see chapter V). Instructional equipment is often outmoded and in poor condition. Libraries have been forced to cut back purchases of books and periodicals, while academic and student support services are understaffed. Savings that might have resulted from the use of automated management procedures, library resource sharing and televised instruction cannot be realized because of the lack of capital investment.

These problems have surfaced at a time when the public higher education system is striving to accommodate a dramatic shift in student demand toward degree programs that are intended to prepare graduates for specific occupations (see discussion in chapter IV). Wherever possible, the institutions have responded to this shift by increasing class sizes in popular subjects and by not replacing faculty in certain departments so that additional teachers can be hired in high-demand programs. Where these remedies are insufficient, institutions are faced with the prospect of terminating tenured faculty or discontinuing an academic department in order to respond to demand for new or expanded programs.

Tenure serves an important purpose in safeguarding academic freedom and in building institutional loyalty among faculty members (see appendix III-C). However, departments and institutions with a high proportion of tenured faculty have limited ability to redeploy resources to programs for which there is growing student demand. The higher the tenure ratio, the more difficult it is to hire or promote new full-time faculty, especially during periods of overall retrenchment. On the other hand, reductions in the number of full-time faculty in a given department will automatically raise its tenure ratio. Thus, any effort to respond to declining enrollments in certain departments by reducing faculty will have the effect of increasing their proportion of tenured faculty.

A look at tenure ratios for Connecticut's public colleges and university discloses that fully one half are already tenure-bound,[5] many with tenured faculty concentrated in education, humanities and social science departments (see appendix III-D). More than 80 percent of the full-time faculty at the state colleges are tenured (see appendix III-E). The same is true of four of five state technical colleges and five of 12 community colleges (Middlesex Community College reported a tenure rate of 96 percent). UConn, with 72 percent of its full-time faculty tenured, is already limited in its ability to hire permanent faculty in new programs. This is one reason why UConn has resorted to the use of part-time lecturers and graduate students to handle an estimated 30 percent of its teaching load--about twice the level that the university considers optimal.[6]

In light of the problems cited above, there is serious question whether Connecticut's public higher education system, as now structured and managed, is equipped to handle the challenges of the next decade. Previous studies have noted the system's lack of planning and coordination, administrative inefficiencies and wasteful duplication of programs[7]--all of which become doubly burdensome when there are not enough dollars or students to go around. It is also clear that serious consequences will befall the system if its problems are not addressed. However, steps can be taken to strengthen the system that do not involve major reorganization or undue expenditure of public funds. These are explored in the sections that follow.

Governance

The Commission reviewed a number of proposals for correcting the problems of public higher education in Connecticut through a major restructuring of the system.[8] Most proposals sought to strengthen the central coordinating agency or to replace it with a strong governing authority (e.g., a board of regents), while eliminating or consolidating the existing constituent unit boards of trustees.

The trend among most states' higher education systems in recent years has been to strengthen the authority of the central agency as the need for better management and coordination became apparent.[9] Almost all states have created an intermediate agency to govern or coordinate their public systems. Nineteen states have a central governing board, most often designated a board of regents. Twenty-eight states, including Connecticut, have a central coordinating board, usually in combination with local governing boards for single or multiple institutions.[10]

Connecticut's system was formed on the recommendation of a citizens' task force in 1965. UConn, the state colleges and three community colleges were pulled together under a newly created coordinating agency called the Commission for Higher Education.[11] Three constituent governing boards were created, with UConn retaining its own board. Control of the technical colleges was transferred from the State Board of Education in 1974.

In 1976, the Committee on the Structure of State Government (Filer Committee) recommended the creation of a single statewide governing board and the elimination of the constituent unit boards (see appendix I-B). That

same year, legislation to establish a state board of regents was introduced in the General Assembly. The bill passed the House but failed in the Senate. A compromise amendment authorized a legislative study that led in 1977 to the establishment of the present Board of Higher Education.

Under existing statutes, the BHE has powers to formulate policy, to develop a master plan for higher education, to consolidate operating and capital budgets for the constituent units, to approve new academic programs and to enforce standards through licensing and accreditation (see appendix III-F, column 1). However, the BHE plays no role in determining how funds appropriated by the legislature are allocated or spent by individual institutions. Despite its planning role, the BHE does not review the role and scope of constituent units or institutional missions. It cannot coordinate program offerings within the system to eliminate wasteful duplication, nor can it terminate nonproductive programs. Finally, although the BHE can recommend the merger or closure of institutions, it has no enforcement powers, which effectively leaves such decisions to the legislature and then only after it is too late to plan less drastic alternatives.

The Commission concluded that a stronger central administrative agency is needed. The central agency should be authorized to consolidate or eliminate programs that are unnecessarily duplicative or no longer needed. Additional authority is also necessary to merge or close institutions that are no longer viable. The institutions cannot be expected to take such action themselves, and it is a politically difficult burden to place on the legislature.

The Commission carefully considered whether a strong independent board could operate effectively within the framework of existing legislation. Although the statutes do grant broad policy-making authority to the BHE, and some latitude may exist to implement policy decisions in a number of areas, the statutory language related to powers of implementation is, at best, unspecific.[12] In practice, both the BHE and the constituent units have interpreted the statutes quite narrowly. The Commission therefore concluded that the BHE lacks a clear legislative mandate to function as a strong central policy-making and administrative agency.

There is further question whether the BHE, as now constituted, would be capable of fulfilling such a role. With 22 members, the board may simply be too large to provide clear direction to the public higher education system.[13] In addition, the board's membership includes eight constituent unit representatives (among them two students) who face an inherent conflict of interest in attempting to formulate policy affecting their own constituencies.

The Commission investigated reports that the constituent unit members tended to vote as a bloc on issues directly affecting their own interests. No consistent pattern of bloc voting could be established. However, a review of board votes on key issues disclosed that, in a number of instances, individual constituent representatives voted as a bloc against the majority of public members.[14] The Commission concluded that the public higher education system would be better served by a lay board composed of distinguished business, labor and community leaders with no ties to any of the state's colleges and universities.

The Commission carefully considered whether the integrity of individual institutions would be compromised by a centralized higher education system. College administrators cite bureaucratic delays that are already encountered in securing BHE approval of new programs.[15] They are also sharply critical of the state's centralized budget procedures, which they find to be both inflexible and inefficient.[16] Increasingly, the administrators are being held accountable for results while lacking authority to accomplish them.

A number of proposals were considered to eliminate or consolidate the constituent boards of trustees. However, the Commission recognized the danger of vesting powers in a centralized agency without maintaining some balance of authority throughout the system. The constituent unit boards of trustees are now each responsible for only one basic educational mission, and the number of campuses under their supervision is limited. They are thus more attuned to the needs of individual institutions and can respond more effectively than a single statewide agency. Consequently, although some realignment of functions is advisable, the Commission saw no need to change the existing structure of public higher education (see appendix III-G).

The Commission recommends that:

1. A Board of Governors,[17] composed of 11 public members as defined by Connecticut statutes, be appointed by the governor and confirmed by the legislature to serve as the central policy-making and administrative authority for higher education in Connecticut. Members are to be appointed to staggered four-year terms. Membership is to be composed of distinguished leaders of business, labor, the professions and the community in Connecticut. Members are to be broadly qualified to serve and capable of making judgments in the best interests of the higher education system. The board should be representative of the state's geographic, racial and ethnic diversity. No member may be employed by or serve on the governing body of a public or private college or university in the state. The governor shall appoint a chairman and vice chairman of the board.

2. The Board of Governors be served by the staff of the existing Board of Higher Education, to be renamed the Department of Higher Education, under the direction of the Commissioner of Higher Education.

3. The Board of Governors have the following statutory powers: determination of statewide policy for the public higher education system; master planning for higher and postsecondary education, including review and approval of missions within legislative guidelines, enrollment planning, and information system development and maintenance; consolidated operating and capital expenditure budget preparation; budget allocation and policy oversight; statewide tuition and student fee policies; student financial aid policy and statewide scholarship program administration; monitoring of institutional effectiveness and viability; merger or closing of campuses; initiation, approval and termination of academic programs; licensing and accreditation; and administration of federal programs requiring involvement of a single state agency.

4. The constituent boards have the following statutory powers: awarding of degrees; recommendations for approval of new academic programs; development of constituent unit mission statements and coordination of institutional specializations within mission framework; development of constituent unit budgets; transfers between accounts; establishment of student fees subject to state guidelines; administration and allocation of extension and auxiliary services funds, subject to state policy and guidelines; selection and appointment of institutional presidents; personnel policies, subject to guidelines; collective bargaining consistent with state policy; approval of tenured appointments and multi-year contracts; constituent board administrative staffing, institutional administrative and faculty staffing; facilities planning and capital expenditure proposals; maintenance and repair of campus facilities; and leases and use and occupancy agreements.

Planning and Budgeting

Many of the problems attributed to the decentralized higher education structure may, in fact, be the result of underlying deficiencies in management procedures.

Connecticut is years behind other industrial states in the development of planning, budgeting and management information systems for higher education.[18] With the exception of capital spending plans, no comprehensive long-range planning is now done by the BHE or the constituent units.[19] There are no systematic analyses of educational needs and no clearly defined statements of the role and scope of institutional missions. Budgeting procedures are still based on the assumption of unlimited incremental growth across the board. There are no systematic measurements of results against goals and no mechanism to identify and respond to problems developing within the system. Most fundamentally, the system lacks the data processing capability and staff to produce needed information on program costs, staffing, enrollments and teaching loads.

Public higher education is undergoing changes of a magnitude that requires careful planning, budgeting and measurement of results if the system is to respond successfully. Lacking these, the system has little ability to relate institutional missions to changing educational needs or to allocate resources accordingly. In a period of declining enrollments and dwindling resources, the system is, in effect, operating blind.

A number of studies, notably the Gengras report in 1977, have noted that Connecticut's budgeting procedures are incompatible with effective management decision-making.[20] The higher education operating budget is prepared on an aggregate line basis, with costs broken out into broad categories of personal services, other expenses and equipment. It is not possible to determine from the budget how much is allocated to individual programs and services, much less how closely budget allocations are linked to needs and priorities.

Each constituent unit prepares a budget, which is then consolidated by the BHE for submission first to the Office of Policy and Management and the governor and then to the legislature. Once appropriations are approved by the General Assembly, funds are distributed to the appropriate constituent unit board of trustees for allocation to the individual institutions. The BHE plays no role in determining how funds are actually spent.[21]

The constituent units have been highly critical of the state's fiscal control procedures, which rely on a variety of pre-audit controls, budget rescissions and "freezing" of job vacancies to balance the state budget.[22] Overreliance on such controls can be disruptive, inefficient and contrary to sound management (see appendix III-H). The institutions have little authority to spend operating funds that have already been appropriated by the legislature or to carry forward unspent but obligated equipment funds from one fiscal year to the next. The institutions also have minimal flexibility in reallocating resources in response to changing needs.

Several constituent units, in their testimony to the Commission, made the point that the state budgeting process offered few incentives for the efficient use of resources. The community colleges observed that any savings resulting from the careful management of resources are likely to be frozen by the state at the end of the quarter and then subtracted from the unit's budget base for the following fiscal year.[23] UConn reported that the university failed to win a contract for a computer-aided design and manufacturing program because of doubts about the timeliness of state purchasing procedures.[24]

Model planning and budgeting systems have been developed by the National Association of College and University Business Officers (NACUBO), the National Center for Higher Education Management Systems (NCHEMS) and others.[25] A number of state systems are currently operating within integrated planning and budgeting frameworks that include a formal analysis of needs, program- or cost-based budgeting procedures and early-warning systems to identify and respond to troubled institutions.[26]

The Commission recognized a compelling need to institute a long-range planning process that would provide a framework for operating and capital budgets. Within this framework, annual budgets would respond to long-range goals as well as to immediate needs. With the exception of certain fixed costs, principally those involving maintenance of campus facilities, budgeting would be based on the principle that dollars follow enrollments and programs.

The planning process would begin with a mission statement detailing the role and scope of the system as a whole, as well as of the constituent units and individual institutions. At present, there is no statement of purpose for the public higher education system specific enough to identify and direct priorities.[27] Mission statements for the constituent units are likewise overly generalized (see appendix III-I).

Each mission statement would be developed at the appropriate level within the system but would fit within an overall framework established by the Board of Governors. Mission statements would specify educational needs and constituencies served, degrees offered and characteristics unique to each institution or constituent unit.

This would help to eliminate needless duplication of programs among institutions and constituent units. It would also counter any tendency to combat declining enrollments by expanding program offerings beyond the boundaries of institutional missions in order to attract more students. Within the system as a whole, as well as within each institution, clear priorities would be established to serve as a guide in allocating resources.

The Board of Governors would have responsibility for establishing the planning framework, developing planning guidelines and timetables, providing systemwide planning forecasts, and establishing uniform definitions and data requirements within the system. Individual plans would originate with the institutions. Each institution and constituent unit would establish its own academic program and service support objectives, consistent with missions and planning forecasts. These would be subject to the approval of the Department of Higher Education, which would also be responsible for monitoring results.

The key to the success of the planning process is careful measurement of academic performance and operating results. All measurements would be tied to planning objectives. Student retention rates, for example, might be used to measure how well an institution is meeting the needs of its students, particularly minorities, handicapped students and others with special requirements. The Board of Governors would develop guidelines for the measurement of program performance, which would be enforced through its licensing and accreditation powers.

The Commission envisions a three-part planning process as follows: 1.) five-year operating plans updated annually; 2.) five-year facility/capital plans updated annually; and 3.) special plans that would be required if specific stress indicators point to structural or operating difficulties at an institution. Each plan is detailed below.

Operating Plans. Operating plans direct how resources will be used to run the public higher education system on the basis of certain assumptions about the future. These assumptions would include an assessment of state and local educational needs, projections of costs and revenues, statewide and regional enrollment patterns, full- and part-time student mix and program demand. Certain assumptions are common to all institutions and would be provided by the Board of Governors; others will originate with the institutions or constituent units as appropriate.

Annual operating budgets would be prepared on the basis of these planning assumptions. For budgeting purposes, certain costs would be regarded as fixed, such as the maintenance of physical plants, while others would be regarded as variable, such as instructional programs. All student-related costs would be funded by various formulas linked to enrollments, tuitions and inflation (see appendix III-J). Each institution, in collaboration with the Board of Governors, would identify a core of academic programs and student services that are integral to its mission. The formula base used in the funding

formulas would reflect the integral nature of certain "core" programs to the mission of the institution, and this base would constitute a major portion of an institution's operating budget. A five-year moving average of enrollments would be used to avoid sharp fluctuations in funding. Depending on the level of actual funding voted by the legislature, the Board of Governors would be empowered to determine budget allocations to each institution.

Facility/Capital Plans. Large capital expenditures require a careful long-term planning period because of lengthy construction lead times and the impact of changing demographic patterns on facility needs. In some cases, a steep decline in projected enrollments may require the sale or partial closure of existing facilities or renovations to accommodate resource-sharing among institutions. Accordingly, the Commission recommends a five-year facility/capital plan incorporating planning assumptions that extend 10 years.

The BHE has made substantial progress within the last three years in upgrading its capital planning procedures. A computerized facilities inventory has been developed to keep track of square footage and seating capacity of every room, building and campus within Connecticut's higher education system (public and private). The system can determine the student capacity of a building or an institution by applying a theoretical utilization standard against actual space available. This enables the BHE to evaluate institutional requests for new or expanded facilities by determining whether additional space is, in fact, needed. (The system still lacks data on actual facility usage in Connecticut to serve as a standard in evaluating space requirements.) Once capital funding requests have been approved, the BHE is able to follow projects from pre-planning stages through final construction with an on-line tracking system designed to pinpoint project delays, cost overruns and other management problems.

The BHE claims some success in redirecting capital funding requests from emphasis on new construction to renovation and better utilization of existing facilities.[28] The facilities inventory and other management information tools have been used to pare back requests by institutions for additional space.[29] Nevertheless, the Commission has noted instances in which extraneous political considerations may have influenced the determination of capital funding needs. Though the capital planning process can never be wholly immunized against political pressures, the Commission believes that a strong central agency governed by an independent lay board is the best guarantee that capital funding decisions will be consistent with the long-range needs of the higher education system.

As the need for new campus facilities declines, greater emphasis should be placed on upgrading instructional and administrative support equipment. Long-term capital investment is needed in data processing and telecommunications to improve academic quality and to increase productivity in such critical areas as library services (see chapter V). The four-year state colleges and two-year institutions also need computer support to generate enrollment, capacity, tenure and program cost data for use in planning and budgeting.

Special Plans. The BHE has responsibility under existing statute to "prepare for the Governor and General Assembly periodic reports on the conditions and needs of the system including...recommendations to merge, close, or otherwise alter existing programs, facilities, or campuses."[30] The BHE has been hampered in fulfilling its responsibilities by a lack of management tools to measure the conditions and needs of the system. Criteria have not been established for the termination of programs and the merger or closure of institutions. As noted earlier, the BHE has no authority under existing statute to act on its recommendations in the face of institutional or political opposition.

Other states, notably Wisconsin, have developed a variety of mechanisms for measuring institutional effectiveness and for identifying operational weaknesses within a system.[31] The Commission identified a number of indicators that might be adapted to the situation in Connecticut (see appendix III-K). They include enrollment and capacity utilization, tenure ratios, program costs, admissions standards, attrition rates, and student-faculty ratios. If changes in one or more indicators suggest that a problem may exist, the affected institution would be required to prepare a written analysis of the situation in conjunction with its constituent unit board. The analysis would normally lead to one of three conclusions: 1.) no problem exists because of extenuating circumstances; 2.) the problem can be handled within the context of normal operating plans; or 3.) the problem requires special planning.

The special planning process would be inaugurated by the Board of Governors upon recommendation of the institution or constituent unit board. The Board of Governors may itself initiate special planning procedures if, after a public hearing involving the affected institution, a determination is made that the situation warrants extraordinary measures. If, in the opinion of the Board of Governors, the problem cannot be remedied without placing undue strain on the system, the Board would have final authority to take corrective action, including merger or closure of institutions.

The Commission recommends that:

5. The Board of Governors, in consultation with the Office of Policy and Management, the constituent units and institutions and management experts as necessary, develop a comprehensive planning, budgeting and management information system for the public higher education system in Connecticut. The system should be operational within 2-1/2 years. The Department of Higher Education should have primary responsibility for developing a planning framework and timetables, instituting uniform planning definitions and data reporting requirements, providing a systemwide mission statement and planning forecast, and monitoring results. Each institution and constituent unit should prepare program and service objectives consistent with the role and scope of its approved mission and with planning forecasts, subject to approval of the Department of Higher Education.

6. The planning process consist of:

   a. Five-year operating plans updated annually, based on a broad assessment of educational needs and forecasts of enrollments, costs, revenues and other pertinent data;

b. Five-year facility/capital plans updated annually, based on 10-year demographic and fiscal trends and educational requirements;

c. Special plans to address serious structural or operational problems identified by specific stress indicators, as directed by the Board of Governors.

7. The Board of Governors develop a formula- and/or program-based budgeting system for use by each institution in preparing operating budgets. The formulas will recognize that costs will differ on the basis of the size, role and mission of different institutions. The Board of Governors will review institutional budgets and prepare a consolidated budget for use by the governor and General Assembly in appropriating funds.

8. State funds for public higher education be appropriated to the Board of Governors for allocation to the constituent units and institutions. If rescissions are necessary, the Board of Governors should determine how rescissions are to be borne by each constituent unit and institution.

9. A Department of Higher Education task force work with the Office of Policy and Management to reduce reliance on pre-audit controls.

10. The Board of Governors submit to the legislature a request for additional staff and data processing support to create a systemwide management information system capable of generating data needed for planning and budgeting.

11. The Board of Governors have final approval of all public higher education capital expenditure requests before submission to the state bonding commission.

# # #

IV. BUSINESS, LABOR AND EDUCATION

Connecticut's economic base has shifted in the last two decades from reliance on textile, brass and rubber manufacturing to a diversified high-technology, defense and service economy.[1]

Manufacturing remains of prime importance to the state in such areas as transportation equipment, fabricated metals, electrical and nonelectrical machinery and defense. Connecticut ranks first among all states in defense contracts per capita, and is among the top half-dozen states in total defense awards. On a per-capita basis, Connecticut is first in industrial research laboratories, first in machine tools per 100 employees, third in patents granted and fourth in value added by manufacturing.

The increasing importance of the service sector can be measured by the rapid employment growth in service-related industries, including government, insurance, finance, health, education, recreation, utilities and real estate. Service-related employment grew 62.4 percent from 1965 to 1979, compared with a 0.7 percent drop in manufacturing jobs. The migration of New York corporate headquarters to Fairfield County was an important factor in this growth, as was Hartford's continued expansion as a major insurance and financial center.

The new balance of heavy manufacturing, high-technology and service industries brought about an economic resurgence in the 1970s and lessened the local impact of downturns in the national economy. However, Connecticut faces the prospect of slower economic growth in the next decade and an increasingly difficult battle to keep jobs in the state.

Connecticut's population is expected to grow during the 1980s at a rate well below that in other parts of the country, especially the Sunbelt.[2] Most immediately, the state will be faced with a sharp decline in the number of 16-to-24-year-old job seekers as a result of the low birthrates of the 1960s.[3] The problem for Connecticut employers will be similar to that of the colleges and universities: not enough qualified applicants to fill vacancies.

Another potential limitation on the economy is the extent to which the state can produce workers with the necessary skills and training to satisfy the needs of a high-technology economy.

Connecticut's working age population is well educated by national standards.[4] The percentages graduating from high school and college are larger than the national average, and the relative numbers with only a grade-school education are smaller. The percentage of college graduates in Connecticut's working age population is significantly higher than it is in any other region of the United States.

However, Connecticut's educational system is not producing enough graduates with the requisite skills in science, math, engineering and other technical disciplines to meet occupational needs.[5] Connecticut ranks fifth nationally in the number of engineers per 100 population, and a sixth of the state's 1.4 million jobs are in the technical sector.[6] The state Department of Economic Development has reported shortages of engineers, electronics technicians, computer specialists, machinists and metalworkers.[7]

Shortages of skilled technicians and professionals in specialized fields have been accompanied by a deterioration in the skills and knowledge of high school and college graduates entering the labor force. Employers have reported a number of problems that point to an underlying lack of academic preparation. Firms that test job applicants note that the math and verbal skills of recent high school graduates are markedly lower than they were 10 or 15 years ago.[8] Many graduates are unable to follow simple written and oral directions or to perform routine clerical tasks. Many graduates lack proper attitudes toward work, as reflected in chronic absences and tardiness, rapid turnover, improper attire and general unfamiliarity with acceptable office or plant behavior. In addition, employers complain that neither college nor high school students are provided with adequate job information or counseling to aid in preparing for careers.

There is evidence that the academic shortcomings of secondary schools carry over into the college level. Employers complain that business majors often cannot compose a letter, while liberal arts graduates may lack the intellectual discipline, skills and work habits traditionally associated with a bachelor of arts degree.

Lack of basic job skills and adequate academic preparation frequently translates into poor workmanship, poor customer service and declining productivity. This has caused many corporations to channel educational resources into remedial programs. To the extent that these programs compensate for the failures of the public school system, they constitute a de facto tax on the private sector. Ultimately, the cost is passed on to the consumer, who, in effect, pays twice--once in the form of taxes to support public education and then in the form of higher prices for the goods and services that the consumer buys.

Corporate training and education programs constitute a fourth major sector of postsecondary education supplementing public and private colleges and proprietary institutions. According to estimates by the American Society for Training and Development, U.S. employers are currently investing $30 billion annually in training and education programs, which is equivalent to nearly half the $65 billion spent in 1980 on traditional higher education.[9] In-house programs may now be providing more continuing education for professionals than are outside institutions.[10]

The growing corporate investment in training and educational programs (see appendix IV-A) serves a number of purposes. Employers may find it necessary to overcome deficiencies in the academic preparation of their employees--not only among high school graduates lacking basic skills but also among college-trained professionals with inadequate or obsolete technical preparation. Technological development is so rapid in some fields that traditional education cannot be expected to keep pace with the changing state of the art in any case. The needs of employees also change as they move into positions or levels of responsibility that require new management skills or technical knowledge.

Skilled Labor Requirements

The shortage of skilled labor in Connecticut and the problems caused by poor academic preparation have been addressed in a series of studies by various state agencies and private industry groups. A number of remedies have been proposed, and many have been adopted. As a result, although problems remain, substantial progress has been made within the last few years.

The State Board of Education and the Connecticut Business and Industry Association (CBIA) conducted a survey of state manpower needs in 1975 and reported both a shortage of workers in skilled classifications and educational deficiencies among many workers.[11] Focusing on the lack of adequate job information available to career counselers, the study recommended the creation of a statewide computer-based job information system. Such a system has since been developed as a result of federal requirements. Connecticut established the State Occupational Information Coordinating Committee (SOICC) in 1979 to develop uniform job definitions and to standardize information-collection systems for use by employers and educators.[12] The SOICC system is now operational, although as yet it is not widely utilized.[13]

The first survey of Connecticut's manpower needs was followed in 1977 by a CBIA study entitled Unfilled Jobs in the Midst of High Unemployment.[14] The study was primarily concerned with the need for more workers trained in certain job skills, particularly in such metalworking occupations as tool and die makers and machinists. The report noted the absence of a statewide planning group to formulate manpower development goals for government agencies. A recommendation to create an agency for this purpose within the Office of Policy and Management has since been implemented.[15]

Business and labor leaders, educators and government officials were members of a committee that produced a 1980 study on education for employment in Connecticut.[16] Jointly sponsored by the BHE, the State Board of Education and the Office of Policy and Management, the study investigated more effective ways of providing job training and education in order to develop a skilled work force in the state.

A key recommendation was to create a permanent State Council on Education for Employment, made up of representatives of the public and private sectors, to collect and analyze information on short-term training needs. This has been implemented, along with another recommendation to organize regional Work/Education Councils to assist educators and business people in matching curricula to local employment needs. Still other recommendations have been incorporated into the State Board of Education's master plan for vocational and career education.[17]

The State Board of Education has also taken steps to help high school guidance counselors expand their knowledge of the working world. These have included regional seminars for counselors and summer work experience programs that place counselors in business environments for six-week periods. The board has also funded the development at UConn of a new guidance counselor training curriculum that includes competency requirements for those in the program.

A coordinated career planning program is underway through the Education-Employment Information Center, an interagency project that provides counseling and computerized information on jobs, training requirements and programs, and student financial assistance. Now operating in the Hartford Job Service Office, this program could profitably be extended to Job Service offices in other cities, such as Bridgeport, New Haven, New London, Stamford and Waterbury.

Education for Employment

How and to what extent should higher education be linked to employment? If preparation for employment is to be an explicit goal of education, at what point should students be moved along different "tracks" on the basis of individual differences in interests and abilities? How is the system to respond to ever-increasing occupational specialization and the rapid obsolescence of job skills and knowledge?

Educators point out that a narrow focus on vocational training may undermine a longer-range need to produce graduates with sufficient intellectual resources to adapt to rapid social and technological change. Many thoughtful business and labor leaders share this view. But they are concerned that requirements for a bachelor's degree have emphasized undemanding electives at the expense of such basic subjects as mathematics, science and foreign languages.[18]

The purpose of a liberal education is three-fold: to provide broad exposure to a range of subjects within a cultural tradition; to gain mastery over a body of knowledge that can be the foundation for advanced study in each of several subjects; and to develop skills and discipline in conceptual thinking and in using information to make critical judgments. Components of a liberal education can be combined with career training in a given field or serve to fulfill the requirements of preprofessional training in law, medicine, theology, journalism and other pursuits. Recognizing this, the four-year state colleges now require that all students, regardless of their majors, study math and science, social sciences, humanities and fine arts.[19]

The uses of a liberal education were eloquently stated in a letter to the Commission by Yale President A. Bartlett Giamatti, who noted that a liberal education:

> . . .seeks, by exposure to a variety of disciplines, to train the whole person to be intellectually discerning and humanly flexible, to be responsive to the new and responsible for those values that make us free and civilized. Indeed, in this age of technological specialization, which may become an age of isolation, it is imperative that students be trained across the sciences and social sciences, the various languages and literatures, and in history, religion and the arts. It is essential to have a grasp of all our human resources if we are to connect with those we do not yet know, and with generations yet to be born, to further a free democracy in its goals. A liberal arts education is, in my view, the essential precursor for any chosen field of endeavor and to that extent is critical for employment without being "job training" in a limited sense.[20]

There is no inherent conflict between the aims of higher education and the educational requirements of employment. Certainly, none was contemplated by the founders of Connecticut's public or private colleges. The state's oldest and preeminent institution of higher learning, Yale College, was chartered in 1701 as a place "wherein youth may be instructed in the arts and sciences, who through the blessing of Almighty God, may be fitted for public employment, both in church and civil state."[21] Connecticut's oldest public institutions were founded to serve the vocational needs of a predominantly agrarian economy.

The occupational needs of a modern industrial society are an explicit concern of Connecticut's public and private colleges today. Indeed, there has been a significant shift at both types of institutions away from majors in education and the humanities toward career-oriented degree programs (see appendix IV-B).

The number of bachelor's degrees in education declined by more than half between 1970 and 1980.[22] Degrees in the social sciences dropped by nearly 12 percent, while degrees in letters were down by one third. During that same period, Connecticut institutions produced 90 percent more graduates in business and management, 46 percent more engineers and 137 percent more health professionals. Graduates in computer and information sciences increased from 13 in 1970 to 138 a decade later. The number of degrees conferred in business and management in 1980 was almost twice the number awarded in education.

On the master's level, education continued to claim the largest number of degrees awarded through 1979/80, in part because of continuing education requirements within the teaching profession. However, the total number of master's degrees in education declined over the decade, while master's degrees in business and management quadrupled during that period. Degrees in biological and physical science, health professions and computer science also increased substantially.

Notwithstanding this pronounced shift in student demand, Connecticut's higher education institutions continue to produce more than twice as many graduates in education and the humanities as in such technical disciplines as science, engineering and computers. More than nine teaching degrees are awarded for every degree in computer and information sciences. In the Hartford area, which has the highest per-capita concentration of mainframe computers in the United States, there are no four-year programs in computer science engineering at any public or private college.[23]

Education continues to rank first among degree programs on both the bachelor's and master's levels at the four-year state colleges. Indeed, approximately 75 percent of all master's degrees awarded by the state colleges over the last decade were in education. By contrast, in the regional independent colleges, business and management is now the most popular undergraduate and master's degree program. Between 1970/71 and 1979/80, the percentage of master's degrees in education awarded at these institutions dropped from 64.7 percent to 31.4 percent, while business and management degrees increased from 9.5 percent to 40 percent.

During the Commission's public hearings, several educators indicated that student demand for career-oriented programs has outdistanced the ability of Connecticut's public higher education system to respond. This is evident in the "capping" of enrollments for business administration, engineering, computer science and other high-demand programs (see appendix IV-C). The president of Manchester Community College estimated that his institution alone could provide training for an additional 500 full-time students in data processing and microelectronics, given adequate facilities, staffing and funding.[24] Similarly, the technical colleges report that they could accommodate a 30 percent increase in students if additional resources were provided.[25] The technical colleges turned away 600 qualified applicants last year for lack of space[26] and are awarding fewer degrees now than a decade ago.[27]

Connecticut's private occupational institutions have thrived in part because colleges and universities are unable to satisfy current demand for career training. In 1980, 23 nationally accredited proprietary institutions enrolled approximately 8,000 students in a wide range of vocational programs. Nationally, proprietary schools experienced a 25 percent increase in enrollment between 1979 and 1980 (see appendix IV-D).

Inadequate funding, budget rescissions, "freezes" on vacant teaching positions, inflexible budget procedures--all have been cited by educators in explaining why Connecticut's public colleges and universities have been unable to allocate sufficient resources to high-demand career programs.[28] They also acknowledge that the high percentage of tenured faculty at many institutions has limited their ability to restructure curricula quickly.[29]

The number of tenured faculty members, their age distribution and concentration by department all affect an institution's ability to respond rapidly and fully to the changing needs of students and society (see appendices III-C, D and E). The greater the percentage of tenured faculty at an institution, the greater the seniority of instructors is likely to be and the higher the proportion of instructional budget set aside for their compensation. This necessarily reduces the funds available to hire additional faculty for new programs or programs for which there is growing student demand.

The collective bargaining agreements between the faculties and boards of the constituent units allow for reassignments or reductions in staff due to financial exigency or the discontinuance of programs (see appendix IV-E). However, the circumstances under which such provisions may be invoked are not clearly defined, and their determination is likely to be time-consuming.[30] In addition, advance notification of up to 24 months is required in order to reassign or terminate faculty. Institutions are understandably reluctant to invoke such provisions out of concern for their faculty and limited career options within the academic profession. As a result, there has been no major restructuring of academic departments to reflect changing needs.

The Commission has proposed a planning and budgeting process that links program funding to enrollments and programs, using formulas that recognize fixed and variable costs, and the concept of a "core" funding base to finance programs integral to the institution's mission. A nucleus of tenured faculty, well distributed by age and specialization, would be protected against the premature dismantling of departments in response to short-term changes in enrollment patterns. As a further safeguard against any dislocations resulting from enrollment-linked budgeting, tenure should be included among the indicators requiring special planning procedures. Within a five-year planning framework, an institution would have greater flexibility in responding to overstaffing problems with a variety of early retirement, retraining and outplacement programs.[31]

Cooperative Programs

In addition to career and professional training programs at the undergraduate and graduate levels, Connecticut colleges and universities are sponsoring noncredit courses and seminars in career advancement, worksite academic and career advancement courses, student internship programs, cooperative education programs involving work experience for college credit, and specially designed contracted programs at campuses or worksites.[32]

Notable among these initiatives are the worksite academic programs conducted by Manchester Community College at Pratt & Whitney Aircraft, Connecticut Mutual Life Insurance Company, Aetna Life & Casualty and Connecticut General Life Insurance Company. The University of Hartford offers on-site management and finance programs at Pratt & Whitney Aircraft, as well as a wide range of other courses to area firms through its Business Outreach Program. Western Connecticut State College has developed special foreign language courses for executives of area firms that operate overseas, while the University of Connecticut is offering an on-site master's program in physics to employees of the Perkin-Elmer Corp. in Wilton.[33]

All of the constituent units report extensive business and labor representation on their boards of trustees, as well as on a variety of institutional and program advisory councils (see appendix IV-F). The Corporate College Council at Western Connecticut State College includes senior executives of corporations in the region who advise the college of their firm's educational needs and recommend programs for fulfilling them.[34] The state technical colleges rely heavily on industrial advisory boards at the institutional, regional and state levels to review and update curricula.[35]

The state's two major research universities, UConn and Yale, are each developing plans to build research parks in conjunction with private industry--an idea that has met with notable success in other states. UConn hopes to build a high-technology park adjacent to its main campus in Storrs to create employment opportunities and to promote resource sharing and joint research efforts with private industry.[36] Yale, meanwhile, is working with the Olin Corp. and the city of New Haven to develop a science park on an 80-acre site near the Yale campus. A nonprofit corporation has been formed to attract high-technology firms to the site in hopes of attracting new support and outlets for basic research at the university.[37] In a related effort, Yale recently established an Office of Cooperative Research to serve as a clearinghouse of research information among the university, government and the private sector.[38]

Despite the many cooperative programs now underway among business, labor and higher education, no framework exists to coordinate such efforts or to relate them to the educational needs of the state. And although mechanisms now exist for assessing short-term employment needs, notably through the SOICC system, they operate outside the higher education planning process. The system has even less capability of analyzing long-term employment trends and how these might be affected by social, scientific and technological change. Such a function might be performed by the Connecticut Academy of Science and Engineering, whose members include leading scientists and engineers within higher education and industry. In joining the organization, its members agree to give time to projects that are of benefit to the state.[39]

The Commission formulated a number of recommendations for improving cooperation and communication among business, labor and education, as well as for improving career counseling programs.

The Commission recommends that:

12. The governor annually appoint a Committee on Technological Change representing business, labor, industry and government in Connecticut to identify and report on technological change occurring in the United States and Connecticut and its effect on employment opportunities within the state. The committee should report annually to the governor, General Assembly, State Board of Education, Department of Higher Education, Department of Economic Development and Department of Labor and to the State Council on Education and Employment. The report should specifically address training needs, and its findings should be incorporated into the assessment of educational needs for long-range planning.

13. The governor request the Connecticut Academy of Science and Engineering to create a committee to determine what areas of technology with high-growth potential are appropriate to Connecticut. The committee should recommend specific industries that might expand operations or be attracted to the state. The committee should present its findings and make recommendations to the governor, General Assembly, Department of Higher Education, State Board of Education, Department of Labor, Department of Economic Development and the State Council on Education for Employment.

14. The governor request the Connecticut Academy of Science and Engineering to establish a clearinghouse for information about scientific research projects being conducted at higher education institutions in Connecticut. Information about research projects would be contributed voluntarily by universities; industries would make their own contacts with the institution after learning of a project from the Academy. The Academy would work in conjunction with the Department of Economic Development, which would provide necessary assistance and publicize the availablility of scientific information within the business community.

15. The Department of Labor, State Board of Education and Department of Higher Education integrate their employment information services into a comprehensive statewide system providing counseling as well as job-matching services at each Job Service Office. The system should be extensively publicized, and guidance personnel at all educational levels should be trained in its use. Initial funding for such a system should be provided by the state to replace the loss of federal funding for the SOICC system and Education-Employment Information Center services. Subsequently, SOICC would be supported by institutions and agencies using the system.

16. The Board of Governors and the State Board of Education, working with representatives of business and labor, develop additional programs to allow teachers and students to work directly with business and industry to learn about their needs and operations.

Apprenticeship Programs

Connecticut has a strong joint labor and industry apprentice system, with some 6,700 apprentices in various stages of training for all trades.[40] As part of these programs, trade-related theory and instruction are provided by the regional vocational-technical high schools. However, current practice does not routinely permit apprentices to apply practicum and related courses taken since high school toward an associate's degree, even though the courses are often nearly identical to those offered at the community and technical colleges.[41] Although a number of apprenticeship programs do carry academic credit, the practice is not system-wide, as in a number of other states.

The Commission recommends that:

> 17. The Board of Governors, in conjunction with the Connecticut Labor Department and specific program sponsors, study the feasibility of awarding college credit for apprenticeship programs. This will involve a review of apprenticeship standards, related instruction components, and the practicum component, including supervision and the evaluation of apprentice achievement, to insure that community college and/or technical college requirements are met.

# # #

V. ACADEMIC QUALITY AND ACCESS

How well does Connecticut's public higher education system serve the needs of its students and the state? Apart from the requirements of business and labor, which were examined in the last chapter, the question has two additional components: academic quality and accessibility. Does the system, in fact, provide the best possible education to the greatest number of students at the most equitable cost?

Issues of academic quality and access are often closely intertwined. It is one thing to ask how Connecticut's public higher education system may be improved and quite another to suggest improvements that do not in some way affect accessibility. Any effort to strengthen admissions standards and course requirements, for example, might deny educational opportunities to students who have the potential to do college work but lack adequate preparation. On the other hand, it may be argued that lowering educational standards to encourage greater accessibility denies opportunities to students who wish to excel.

Some of the most fundamental issues of academic quality and access concern money. Is Connecticut's public higher education system adequately financed? If not, should tuitions be raised? Do the state's relatively low tuition levels needlessly subsidize middle-class students while harming tuition-dependent private colleges that compete for the same students? Would higher tuitions deny access to low-income students at a time when the federal government is cutting back on student assistance programs? Once again, an apparent solution to one problem can create complications elsewhere.

Academic Standards

How good are Connecticut's public university and colleges?

Many factors must be taken into account, including the caliber of students and faculty; course requirements and graduation standards; methods of instruction, student evaluation and counseling; and the quality of libraries, laboratories and other academic support facilities. All of these must be evaluated in terms of institutional mission, which differs markedly from open-access community college to research university. Depending on the institution, the mission may encompass general education, professional and technical training, research and public service.

A number of measurements of academic output are currently unobtainable or, at best, fragmentary. These would include the opinions and general satisfaction of graduates and employers, acceptance and performance of students at selected graduate schools and job placements in fields related to academic preparation.

Perhaps the most crucial factor--and the one that is least susceptible to precise measurement--is the quality of instruction. Do teachers keep up with their fields and revise course syllabi and reading lists accordingly? Are teachers as committed to teaching as to research? Does the tenure structure hinder the creation of new programs that are responsive to changing needs?

Do lecture courses involve student discussion? Are term papers corrected as well as graded--or are they assigned at all? Do instructors give essay exams or rely on true/false and short-answer tests? The trend in Connecticut, as elsewhere, has been toward methods of instruction that encourage students to recognize "correct" information rather than to use it to conceptualize and to develop critical judgment.

One quantitative measurement common to most institutions is student SAT scores, which are designed to predict the academic success of students in their first year of college.[1] In 1981, the mean SAT scores of students entering UConn's main campus were above the national average in both verbal and math tests, as were results for students at the UConn branches, although to a lesser degree (see appendix V-A). Mean scores for students entering the state colleges were well below the national averages on math and verbal tests. State technical college students scored above the national average in math and below on the verbal test. (The community colleges are essentially open-access institutions that do not require students to take SAT exams for entry into most programs.) The trend of SAT results for students at public institutions is downward. This follows the national pattern, which has seen a steady drop in SAT scores since the 1960s.[2]

SAT scores serve as rough indicators of the quality of preparation of entering students at a given institution. What the results suggest is that many of the academic problems encountered at the college level are, in fact, inherited from the primary and secondary schools. Low scores may also indicate the extent to which an institution might be forced to divert resources to remedial programs to overcome deficiencies in academic preparation.

All of the constituent units are addressing problems of students' inadequate preparation with a variety of remedial programs. UConn, in written testimony prepared for the Commission, complained of "inordinate faculty attention being given to coursework which in the past had been mastered in the secondary schools."[3] In the fall of 1981, the university offered 19 sections of algebra and trigonometry and six sections of remedial writing, in addition to 70 sections of English composition and writing skills.[4] At the state technical colleges, about eight percent of the student body is enrolled in a remedial pre-technical program that uses four percent of the institutional resources.[5] Between five and 13 percent of the instructional course load of the community colleges is devoted to remediation, self-development and basic skills improvement.[6]

Recognizing the problem of inadequate preparation, the General Assembly in 1978 enacted legislation that requires local school districts to administer a basic skills test to students in the third, fifth and seventh grades and a statewide proficiency exam to ninth-grade students.[7] School districts are required to provide remedial assistance to students found deficient in basic skills. The test results are also to be used in evaluating and improving the quality of instruction in local schools.

Also as a result of legislation, the State Board of Education has adopted a comprehensive statewide plan for elementary and secondary education and a master plan for career, vocational and adult education.[8] Local school boards

have adopted goals and will complete student objectives by next fall, when they will also be required to offer programs in a minimum of 11 subjects in a planned, systematic and ongoing fashion.

The State Board of Education has also appointed a Professional Development Council to advise on teacher preparation programs, certification requirements and professional development.[9] The council is now studying teacher competency testing, recertification, internship requirements for entry into teaching and standards for teacher preparation programs.

At UConn, the School of Education has already revised its entrance and graduation requirements as part of a comprehensive review of its teacher education program.[10] UConn also provides in-service teacher education programs for an average of 50 Connecticut school districts each year. In another program, members of the English faculty work with high school composition teachers in an effort to raise student achievement levels in writing.

The State Board of Education and others believe that one of the most effective methods of improving the quality of education at both the elementary and secondary levels is to strengthen college admission requirements.[11] This would encourage schools to provide more rigorous academic programs and encourage students to concentrate more heavily on English, science, mathematics, foreign languages and social sciences.

As noted earlier, all sectors of public higher education have reported declines in the SAT scores of incoming freshmen. In some cases, particularly with the four-year state colleges, the mean scores are already significantly below the national average. Faced with the pressure of declining enrollments during the next decade, institutions may be tempted to lower admission standards still further in order to attract applicants.

Entrance standards can be strengthened by establishing an admissions "floor" at each four-year institution and technical college. An academic profile would be developed for the incoming class at each school based on such criteria as high school grade-point averages, SAT scores and high school class rank. The profile for the current year would become the standard against which the profile of future classes would be measured. The admissions "floor" could be used as a baseline for year-by-year improvements in entrance standards. Conversely, a drop in the academic profile of incoming classes below the established admissions "floor" might be an indicator of institutional stress.

What would be the effect on institutional enrollments if admissions requirements were strengthened in the face of a declining college-age population? Indications are that higher standards might attract some of the large number of state residents who attend college out-of-state (see appendix V-B) because the academic quality of Connecticut public colleges is perceived to be low.[12] There is no evidence to substantiate fears that higher standards would lead to a drop in enrollments for minorities.[13]

Institutions do need to retain flexibility in admissions to reach out to students of high potential and modest achievement, as well as to the disadvantaged and adult learners who have been out of the mainstream of education for

a number of years. Consequently, the academic profile developed for each incoming class should be constructed in such a way as to enroll some students whose academic records might place them below the admissions "floor" for the institution.

The community colleges would continue as open-access institutions. However, community college students enrolled in degree programs, along with all students at the state technical colleges and senior public institutions, would be examined on their mastery of specified skills and knowledge at the end of their sophomore year. The adoption of such standards would also ease the transfer problems of community college students who seek to continue their education in upper-division programs.

Academic standards can be further strengthened by administering a basic skills test to entering students for purposes of placement at all public institutions. Students who lack basic preparation for college-level work would be required to take a series of developmental courses and would then be retested before being allowed to continue in the regular college curriculum.

The Commission recommends that:

18. The Board of Governors appoint a task force that would include representatives of the University of Connecticut, the state colleges, the state technical colleges, the community colleges and the public secondary schools to recommend ways that academic standards can be maintained and/or upgraded at the state's public higher education institutions. The task force should consider development of a profile of freshmen at the university, at each state college and at each state technical college based on academic characteristics of students accepted for admission in the current year. The profiles would be the basis for developing goals to maintain or to improve the average academic profiles of subsequent freshman classes. The task force should recommend high school course requirements to be completed by students prior to entrance to college. Further, the task force should recommend policies for providing institutional access to all students who demonstrate the potential for success in college but do not meet minimum admissions requirements. The task force should recommend a system to monitor the progress of these students and a process for ensuring that appropriate action is taken to give such students additional counseling and remedial work in cases where they do not show adequate progress. These additional support services will require financial commitment by the state for programs designed to aid this population of students. Task force recommendations should be considered by the Board of Governors, which should be responsible for developing a program no later than December 1983 to ensure that academic standards are maintained or, if warranted, improved.

19. The Board of Governors select or develop a basic skills test that shall be taken by all students admitted to the state's public higher education institutions in order to make proper placements and to determine individual student needs for counseling and remediation. For those students who do not meet an established standard, and who are approved to continue, appropriate remediation should be provided.

20. The Board of Governors define a body of knowledge and a set of academic skills that must be mastered by students by the end of their sophomore year at a public higher education institution, and select or develop an examination, or other method of measurement, to determine that students have attained this standard before proceeding to their junior year. The Board of Governors, as part of the licensure and accreditation process, should undertake a thorough review of the quality and relevance of existing curricular offerings.

21. The Board of Governors and the State Board of Education undertake a thorough and vigorous review of criteria and procedures for approval of pre-service and in-service teacher-training programs, and develop or expand in-service teacher-training programs where appropriate. They should consider, among other topics: professional programs at the graduate level; continuing professional education; required undergraduate course distribution that assures solid, broad academic background prior to admission to an undergraduate major or graduate program in teacher education; a jointly sponsored internship program for new teachers; incentives for faculties of public higher education institutions to become involved in elementary and secondary schools; and development of joint programs for gifted and talented students. The State Board of Education should also explore methods of attracting high-quality students to the teaching profession, particularly in areas of teacher shortage.

Funding Adequacy

The quality of education provided to citizens in Connecticut will depend to a large extent on what the state is willing to pay for. Many educators regard the adequacy of funding as the single most critical issue facing public higher education. They note that state spending for higher education is low in comparison with that of other states and represents a declining share of General Fund appropriations. Connecticut ranks 37th among all states in per-capita spending for higher education and 46th in appropriations per $1,000 of personal income (see appendix V-C). As a percentage of total state spending, higher education claimed 10 percent of budget expenditures in 1971 and only seven percent in 1980--a 30 percent decline over the decade (see Appendix V-D). Much of this decrease is the larger share of General Fund appropriations that goes to state employee pensions and debt service. Nonetheless, Connecticut currently ranks at or near the bottom of all states in share of tax revenues appropriated for higher education.[14]

The state's low standing in per-capita spending for higher education is partly attributable to the fact that a relatively small proportion of Connecticut students attend tax-supported institutions in state compared with students in other states. Indeed, among Connecticut high school graduates who went on to college in 1980, more attended out-of-state institutions (50.5 percent) than attended public institutions in the state (36.2 percent)(see appendix V-B). On a per-pupil basis, Connecticut ranked 21st out of 47 states in a comparison of state and local appropriations for state universities (Connecticut's state colleges and two-year institutions account for a relatively smaller share of per-pupil expenditures).[15]

A comparison of faculty salaries and benefits for state universities, four-year colleges and two-year institutions countrywide shows that compensation levels in Connecticut are at least competitive with other states (see appendix V-E). UConn's total compensation for faculty at all levels is comparable to the levels at leading research universities countrywide. Salary and benefits for faculty at the two- and four-year colleges are in the mid-range of compensation at similar institutions in other states.

Within the infrastructure of public higher education, the problem of inadequate funding becomes apparent. Routine maintenance is deferred. Academic and student support services are eroded. Obsolete equipment is not replaced. Investment in new data processing and telecommunications equipment for libraries and instructional use is sharply curtailed. Needed books and periodicals for libraries are not purchased. Inadequate laboratory facilities and inability to hire new faculty force the capping of business and professional programs.

Cutbacks in library purchases at UConn and its branches have been the subject of recent news reports and editorial comment. A reduction in the library's initial $1.3 million budget request to $973,570 has forced the suspension of new book purchases and the cancellation of 2,000 periodical subscriptions.[16] In addition, librarians have been asked to cancel or return orders that have already been placed. UConn faculty have expressed fears that the cutbacks will jeopardize the institution's standing as a major research university.

Lack of funding for new equipment has made it difficult to offer up-to-date technical programs in support of Connecticut business and industry. For example, Central Connecticut State College reports that its School of Technology, which currently enrolls 10 percent of its undergraduate student body, must make do with equipment that is 20 to 40 years old.[17] The technical colleges have reported difficulty in obtaining computer support adequate to keep pace with student demand for data processing programs.[18] The community colleges have testified that their total equipment allocation for 12 institutions is less, in some cases, than what is spent by a single community college in the New York state system.[19]

Dr. Samuel Gould, former acting commissioner of higher education in Connecticut, recently suggested that education should be seen as an investment in the future rather than as an expense to the taxpayer.[20] In his view, education in Connecticut is still looked upon as an expense rather than as an investment. Low priority is given to spending for public higher education; programs, services and facilities are underfunded; and Connecticut students, believing the educational quality of state institutions to be low, continue to migrate to colleges in other states.

To turn that situation around will require substantial additional funding that the state cannot provide from existing tax revenues. Revenues have not kept pace with rising government expenditures over the last decade, and are expected to lag even more as the Reagan administration shifts the burden of many social programs from the federal government to the states. The alternative of raising tuition levels will be discussed in the next section.

Tuitions and Financial Assistance

Connecticut differs from most other states in the degree to which it relies on tax revenues to support its higher education system.[21] The General Assembly did not authorize tuition charges until 1972, and increases in tuitions and fees since then have tended to come during years when the state faced a budget deficit.[22]

Tuitions and fees for public higher education in Connecticut are low in relation to similar types of institutions in other northeastern states, where educational costs are comparable (see appendix V-F). The average tuition and required fees for in-state students ranged from $404 at the community colleges to $1,101 at UConn in 1981/82. That places Connecticut 12th in average student costs among 12 community and technical college systems in the Northeast and ninth out of 11 major state universities. Tuition and fees at the four-year state institutions are only a fraction of those at the regional independent colleges, which compete for many of the same students (see appendix V-G).

Tuitions at Connecticut's public institutions are not based on a fixed percentage of costs, as they are in some other states, nor are they regularly adjusted for inflation.[23] As a percentage of state expenditures per FTE student, tuitions for in-state students currently represent only 10.5 percent of expenditures at the community colleges, 9.5 percent at the state technical colleges, 10.5 percent at the four-year state colleges and 9.0 percent at UConn (see appendix V-H). And because tuitions are increased only intermittently, they tend to lag behind inflation during the interim (see appendix V-I).

There is strong sentiment both within the higher education sector and on the Commission to keep tuitions as low as possible. It is clearly in the public interest to provide an education to all deserving students, regardless of ability to pay. Furthermore, there is concern that raising tuitions may adversely affect student enrollments, even if accompanied by increased financial assistance for needy students.[24]

The issue of tuition adequacy cannot be divorced from student financial assistance, particularly at a time of sharp cutbacks in federal tuition grants, guaranteed student loans and Social Security education benefits. Estimates vary as to the number of students that will be affected, but there seems little doubt that hundreds of thousands countrywide could be denied benefits under the tighter eligibility requirements now contemplated for these programs.[25]

The impact will be particularly severe in Connecticut for two reasons. First, a relatively large proportion of students receiving some form of federal assistance attend tuition-dependent private colleges that cannot turn to the state for additional support.[26] (The independents receive indirect support in the form of need-based financial assistance distributed through the institution to Connecticut students.) Second, the state itself has relied on federal student assistance programs to offset recent reductions in the level of state aid.[27]

In 1979/80, the last year for which data are available, Connecticut ranked 17th nationally in per-capita funds to support need-based student financial assistance (see appendix V-J). Among 14 northeastern states, however,

Connecticut ranked 12th on a per-capita basis (see appendix V-K). Since then, the number of student assistance programs has been reduced, and total state funding has declined.[28] The rapid growth of federal programs through 1980/81 produced a 15 percent net increase in total state and federal aid during this period, but even that was not sufficient to overcome a 30 percent rise in student costs.[29]

To raise tuitions substantially in the face of declining levels of student financial aid would, at the very least, create hardships for the families of many poor and working-class students and raise fears that some might be denied access to higher education. For example, although in-state tuition at UConn is only $540 per year, required fees raise the total to $1,101 before the cost of room, board, books and other expenses is included. A recent increase in tuitions and fees voted by the UConn board of trustees will push total estimated educational expenses above $5,000 next year.[30]

Notwithstanding a strong public interest in providing low-cost public higher education to Connecticut citizens, the Commission identified a number of important reasons to consider higher tuitions, especially if linked to increases in student financial support.

Perhaps the strongest argument in favor of raising tuitions is that it would provide substantial additional funds both to increase student financial assistance and to improve the quality of education at Connecticut's public colleges and university. At the same time, it would reduce the General Fund subsidies of students whose families can afford to pay a larger share of their educational costs. Subsidies would also be reduced for out-of-state students, who currently pay less than a third of the General Fund cost per student at four-year public institutions.[31]

The Commission was particularly concerned about the widening gap between public and private tuitions, and the resulting impact on unendowed independent colleges that must compete for students with subsidized state institutions. Free of external administrative control and legislative mandate, the independent colleges have greater flexibility in program innovation and also play an important role as upholders of academic freedom. They have shown surprising strength over the last decade in coping with rising educational costs while responding to rapid changes in student demand. But with the added pressure of declining enrollments, the growing disparity in public and private tuitions could place their future in jeopardy.

The Commission has heard a number of proposals from the independent sector on how to redress this imbalance, including a decrease in General Fund support for the state colleges and UConn, substantially higher public tuitions and student financial assistance, and increased aid in the form of loans or direct grants to Connecticut students attending private institutions. The University of Bridgeport's plan for the redeployment of higher educational funding would increase funding for the purchase of programs and space at independent colleges and would fund a program to establish "state-related" higher education institutions.[32] A proposal by the Connecticut Conference of Independent Colleges would set up a student loan program funded through the sale of tax-exempt bonds, with eligibility extending to all students attending college in Connecticut.[33]

The Commission has given careful consideration to proposals for basing tuition on a fixed percentage of the average educational costs at an institution.[34] The percentage would vary, depending on in-state/out-of-state and undergraduate/graduate status. If, for example, undergraduate in-state tuition were established at 20 percent of expenditures per full-time equivalent student, a UConn student would have paid $1,199 in FY 1982 (see appendix V-H), compared with the actual tuition of $540. The additional tuition revenues generated by such a funding formula would be earmarked for increased student financial aid and for improvement of academic programs.

Such a proposal has important public policy implications that require further study by the Board of Higher Education and the legislature. In the interim, tuition levels and student financial assistance should at least keep pace with inflation. (Fees are already set by the constituent units on the basis of costs.) Tuitions and financial assistance can be linked each to a recognized index of price changes in educational goods and services, such as the Higher Education Price Index (HEPI).[35] In addition, the funding base for assistance to students at independent colleges should be increased 25 percent, which would raise the appropriations to $5,562,500 from $4,450,000.[36]

Had indexing been applied beginning in 1976/77, in-state tuition at UConn would have risen 48 percent to $797 in 1981/82, compared with actual tuition of $540 (unchanged since 1976) (see appendix V-L). Out-of-state tuition would be $1,816, which is 48 percent higher than actual tuition of $1,230. General Fund appropriations for state scholarship programs would have increased 25 percent to $4.36 million, compared with actual aid of $3.48 million.[37]

The Commission recommends that:

22. Tuition for each of the constituent units be adjusted each year by a percentage equal to the change in the Higher Education Price Index (HEPI) for the previous fiscal year. Fee structure be examined by the Board of Governors to determine whether it is feasible to index these charges so that the increases do not exceed the increases in cost-of-living index.

23. Statutes be modified allowing tuition waivers for part-time as well as full-time in-state students who demonstrate financial need and who are matriculated in degree programs. The total of waivers should not exceed the tuition revenue paid by 10 percent of full- and part-time in-state students matriculated in degree programs the previous academic year. Eligibility for waivers should be based on guidelines developed by the Board of Governors.

24. Funding for the State Scholarship Program, the State Academic Achievement Grant Program, the State Supplemental Grant Program, the State Work-Study Program and the state program providing grants to students attending independent colleges (P.A. 551) be adjusted each year by a percentage equal to the change in the Higher Education Price Index for the previous fiscal year. Funding for P.A. 551 should be increased the first year by 25 percent.

Access to Higher Education

It is a major tenet of public policy that all citizens should have access to form of postsecondary education suited to their interests and abilities. The inability to afford an education is an obvious barrier to access. There are others, including the failure of institutions to respond to the special needs of minorities, the handicapped and transfer students, as well as barriers that might result from the regional distribution of educational facilities. A less obvious but important barrier to access is the inability of students to pursue a chosen course of study as a result of limitations on enrollments in specific majors or degree programs.

The Commission examined four major issues related to student access as follows:

Minority Access. The access of Blacks and other minorities to public higher education is essential not only as a matter of social policy but also because of their growing importance to the economy of the state. The percentage of college-age youth who are Black or Hispanic is expected to grow steadily over the next 15 years, rising to 19 percent of all 18-to-22-year-olds by 1996.[38] They could thus help offset the projected overall decline in college enrollments during this period and become a major source of skilled and educated manpower.

According to Board of Higher Education statistics, minority student matriculation at public institutions grew 20.3 percent from 1976 to 1980, compared with a 6.6 percent increase in enrollments for other groups.[39] Nevertheless, minorities are still seriously underrepresented in student populations, accounting for less than nine percent of total enrollments.[40] That compares with 18.1 percent enrollment of minorities in the state's public schools and 12 percent of high school seniors.[41]

The rural location of UConn's main campus at Storrs may account in part for the university's inability to attract more minority students. But a similar rationale will not serve to explain why minority enrollments have declined at the regional community colleges, many of which are located in urban areas with large Black and Hispanic populations.[42] Furthermore, with the exception of the two-year colleges, public institutions in Connecticut have lower percentages of minority representation than their counterparts in the private sector.[43]

The percentage of minorities attending college does not tell the whole story. A comparison of degrees conferred with enrollment rates suggests that many minority students are not completing college programs. For the academic year ending June 30, 1979, only 5.2 percent of degrees conferred were awarded to minorities (see appendix V-N). Furthermore, more than half of all minority students attend regional community colleges (vs. 34 percent of nonminority students), with the result that the degrees awarded to minorities are more likely to be at the associate's level than are those awarded to nonminority students. An examination of the disciplines in which graduates obtained degrees discloses that minorities are less likely than others to pursue business and technical programs that could lead to jobs with higher status and pay (see appendix V-O).

Tentative steps have been taken to increase minority access to institutions of public higher education in Connecticut. The Board of Higher Education created a temporary staff position in 1980 to coordinate a program to increase minority participation. (Efforts to secure funding for a permanent position have been unsuccessful, however.) In addition, the state student financial assistance program was revised during the last legislative session to increase aid to minority students.[44]

Since 1967, UConn has sponsored CONNPEP (Connecticut Precollegiate Enrichment Program), an Upward Bound program designed to encourage and prepare minority and disadvantaged students to continue their education beyond secondary school.[45] The three-year program includes tutoring during the regular academic year and summer courses in reading, writing and math at the Storrs campus. Central Connecticut State College has sponsored its own summer program for disadvantaged students.[46] Having operated for a number of years without General Fund support, the program recently received state funding to enable it to expand to Eastern and Southern state colleges.

Improving access for minorities will require a financial commitment by the state for programs directed at recruitment, student counseling,[47] and educational support services, as well as career counseling and job placement. Minority representation among the staff and faculty of state higher education institutions also needs to be increased in order to assist minority students in overcoming barriers that contribute to high attrition rates.[48] Further, transfer policies should be directed toward encouraging able minority students at two-year colleges to continue their education at upper-division institutions. To ensure a sustained institutional commitment to improved minority participation, specific objectives should be incorporated into operating plans and results should be carefully measured.

The Board of Governors should consider developing in one area of the state a pilot project that addresses minority recruitment and retention. The pilot might include a community college, technical college, state college, and UConn, as well as secondary schools and businesses in the area. The program would include recruitment, linkages with business for career exposure and employment, staff training and retention. Academic problems and educational support services would be carefully monitored, and data would be collected for evaluation and program planning.

The Board might also consider development of a statewide minority peer counseling and mentor program involving academically successful minority students and recent minority graduates. These individuals would work with minority public school students, as well as college freshmen and sophomores, to improve recruitment, retention and graduation rates among Blacks and Hispanics.

Access for the Handicapped. Few students are denied access to public campuses or to academic programs in Connecticut because of physical handicaps. Access for handicapped people is a top priority in the allocation of capital expenditure funds for higher education. The five-year capital plan approved in September 1981 includes almost $5 million for such projects, $3 million of which has already been authorized by the General Assembly.[49]

Many renovation projects have already been completed. However, elimination of physical barriers does not in itself ensure equal access for handicapped students to academic programs and services. Varying interpretations of the 1973 Rehabilitation Act and its amendments by rehabilitation agencies and higher education institutions may result in the denial of appropriate services to qualified applicants.[50] In addition, rehabilitation programs for handicapped citizens face cutbacks in federal funding. If services are to be maintained, the state will have to strengthen its financial commitment to programs for the handicapped.[51]

Transfers. Difficulties in transferring from two-year institutions to upper-division programs pose an additional barrier to access for minorities and other students who wish to pursue their education. The greatest transfer problems are reported between UConn and the regional community colleges. The university requires a minimum grade-point average of 2.5 (on a 4.0 scale) and gives preference to applicants who have completed transfer, rather than terminal, programs. Students at UConn's branch campuses who continue their education in upper-division programs at Storrs are not considered transfers and, like students on the main campus, are required to maintain only a 1.8 cumulative average. Community college students who do transfer to UConn may lose credit upon transfer because of inadequate information on university requirements.[52]

The Connecticut public higher education system lacks a statewide agreement governing conditions and course equivalencies for transfers from two- to four-year institutions. The Connecticut State Transfer Articulation Committee developed a transfer policy statement in 1976, but it was not adopted by all constituent units.[53] UConn and the state colleges have developed their own transfer policies, but the community colleges have disagreed with methods for transferring credit to upper-division programs.[54] The boards of trustees of the four-year institutions mutually adopted a policy statement on transfers in 1981.[55] However, it seems largely to have been a restatement of previous policies rather than a clear articulation of transfer requirements and course equivalencies. The community colleges, which have expressed the most concern about transfers, were not involved in the development of this policy statement. The Commission concluded that a comprehensive statewide transfer agreement is needed.

Additional problems have been encountered by students attempting to transfer into "capped" programs. In recent years, UConn has closed or limited access to a number of programs, including business, engineering, nursing, clinical dietetics, medical technology, physical therapy, and pharmacy (see appendix IV-C). This constitutes an effective denial of access to programs of choice to students who are capable of making a solid contribution to their field. However, the problem here is less one of inequitable transfer policy than a failure to provide resources to accommodate the needs of all students.

Regional Access. Connecticut is a small state geographically with a relatively large number of public and private colleges that are well distributed throughout the state (see appendix I-A). However, not all the programs offered by these institutions are equally accessible to students in every region. For example, a number of cities with large minority populations have no four-year state institutions nearby, creating access problems for minority

students and others who may wish to continue their education beyond the first two years but must live at home. It is also questionable whether, in time of fiscal constraint, every institution in a region can continue to offer programs to meet every educational and training need.

Regional cooperation among public and private institutions has long been advocated as a way of eliminating wasteful duplication of programs and facilities, as well as encouraging specialization. Following a 1971 feasibility study by Arthur D. Little & Co., the Commission on Higher Education established six higher education planning regions.[56] The purpose of these regional groups was to collect information for planning and to encourage greater cooperation among public and private institutions. Grants were provided to support administrative services and program activities.

In 1977, the staff of the General Assembly's Program Review and Investigations Committee proposed that the public higher education system be consolidated under a single governing board to be administered by regional chancellors, with direction from broad-based regional advisory councils.[57] The proposal was modified to leave UConn with its own board of trustees, but the remaining constituent units were to be merged into a Connecticut state university system organized into four separate regions. Regionalization was viewed as a way of enhancing student opportunity, improving educational quality and encouraging institutional specialization. The proposal was not enacted.

The Commission has noted with interest a number of new proposals for the regionalization of higher education in Connecticut.[58] In an era of limited resources, regionalization would offer significant potential savings through shared programs, coordinated course offerings and the cooperative use of facilities. At the same time, it promises a broader range of educational opportunities to students than is obtainable from any single institution within a region. Comprehensive regional planning could be conducted within the framework of the proposed long-range planning process to build on the cooperative programs already undertaken by public and private colleges in the state.

The Commission recommends that:

> 25. The Board of Governors be funded for an Office of Educational Opportunity to consist of a director and support staff with demonstrated sensitivity to the needs of disadvantaged students. The unit should carry out statewide efforts to increase enrollment, retention and graduation of these students, as well as to ensure that faculties, administrators and other staff are representative of the diversity of population.
>
> 26. The Board of Governors, in consultation with the institutions and their constituent unit boards, develop a strategic plan to ensure that students, faculty, administrators and staff at each college and the university are representative of the racial and ethnic diversity of the total population. For each institution, there should be an approved plan to include goals, programs and timetables for achieving those goals, and a procedure for annually monitoring results and taking corrective action. The Board of Governors should also develop policies to guide affirmative action officers and programs in all constituent units and at each of their member institutions or branches.

27. The Board of Governors make a major report annually to the General Assembly on these activities. The report should include statewide constituent unit and institutional goals and plans for attaining them, as well as changes in enrollment and employment at the state's public colleges and university. When an institution has failed to achieve the goals established for these functions, corrective steps determined by the school and approved by the Board of Governors should be introduced to ensure that the goals set are achieved.

28. The Board of Governors, in conjunction with public and private colleges in Connecticut, explore opportunities for greater regional cooperation and include them in long-range plans for more efficient allocation of resources.

29. The Board of Governors, working with the constituent units, develop a comprehensive statewide articulation agreement among the university, state colleges, community colleges and technical colleges. The agreements should include statements of course equivalencies and assure mutual full faith and credit for equivalent courses among all state institutions. They should also assure that spaces are reserved in high-demand programs at the University of Connecticut for students entering such programs at the junior year, and that competition for such transfer spaces shall be on an equal basis with students who are enrolled at the university's main campus and its branches, as well as those transferring from other institutions.

Educational Technology

There are few areas of life and work that are not undergoing rapid and fundamental change as a result of advances in electronic technology. Yet, whether through limited funding or adherence to traditional educational methods, Connecticut's public higher education system has not made full use of telecommunications and data processing technology in such areas as library automation, computer-assisted learning and televised instruction. As a result, the system has not realized the potential for improved productivity and more efficient delivery of educational services. Furthermore, its students may not be adequately prepared for a world that is increasingly dependent upon data processing technology. With computers becoming commonplace in offices, schools and homes, there is a clear need to incorporate basic computer literacy into the core curriculum of higher education.

The use of television as an instructional tool is not new, but its potential is vastly increased by the advent of cable television and satellite communications. Multichannel cable systems are offering broadcast time to colleges at little or no cost, while satellites are beaming instructional programs to earth stations from which they can be taped and rebroadcast by colleges at relatively modest cost. These advances in telecommunications technology make it possible to extend the reach of higher education to the homebound elderly and handicapped, as well as to facilitate resource sharing among colleges or between colleges and private industry.

In 1980, a BHE task force recommended the creation of a telecommunications authority to develop educational and instructional programming. Its report, entitled A Prospectus for Educational Technology in Connecticut,[59] noted that apart from production facilities at Western Connecticut and Eastern Connecticut state colleges and a TV community college series, little use was being made of televised or computer-assisted instruction in the public sector.

UConn has reported several experiments with computer-assisted and programmed instruction, as well as the use of computer graphics and computerized research tools, as part of a computer literacy program for its students.[60] Most of these efforts have been accomplished through the internal reallocation of funds in the absence of start-up funding by the state. At present, UConn has only 42 terminals available for use by its 18,000 students.[61]

UConn has also been active in the development of computer-based library cataloging, literature search and interlibrary loan systems in conjunction with other libraries in the state.[62] The so-called "electronic library" offers the potential of significant savings at a time of rapidly escalating labor and material costs and an explosion of information that makes it difficult for all but the largest libraries to remain current.[63] However, the initial capital investment in these systems is high, and it requires careful planning and coordination among the cooperating public and private libraries.

The Commission believes that substantial capital investment in telecommunications and data processing systems is necessary if Connecticut's public higher education system is to be responsive to the needs of a technological society. Systemwide planning and coordination should be undertaken by the Department of Higher Education within the framework of the proposed planning and budgeting process.

The Commission recommends that:

> 30. The Department of Higher Education, in conjunction with the constituent units and institutions, develop long-range capital and operating plans for telecommunications and data processing technology.
>
> 31. Investment in needed instructional technology or computer-based library systems be a priority in capital/facilities planning and be coordinated with the state library.
>
> 32. A Joint Council on Educational Technology be legislatively established to include membership from the Board of Governors and the State Board of Education and staff support from these boards. The Joint Council should be charged with overall coordination of educational technology in Connecticut including: (a) computer-assisted instruction; (b) information retrieval and transfer; (c) data communications; (d) televised delivery of educational programs, including cable, open broadcast, and nonbroadcast; (e) development and acquisition of educational software; and (f) other instructional technologies used for instruction.

Innovative Programs

Program innovation and improvement of academic quality are often the first casualties of fiscal retrenchment. The result is that the system as a whole becomes less capable of responding to the changing educational needs of society. Some states, including New York and Florida, have set aside substantial funds for endowed chairs to attract prominent faculty to public institutions.[64] The presence of distinguished faculty enhances the prestige of the institution and makes it more attractive to gifted students. On the national level, the Fund for the Improvement of Post-Secondary Education (FIPSE) is providing seed money in the form of small grants (usually $50,000 to $200,000 per year) to promising new programs.[65] The Carnegie Council on Policy Studies in Higher Education has recommended that similar programs be adopted within state systems.[66]

The Commission recommends that:

> 33. A discretionary fund, administered by the Board of Governors, be established to provide funds to initiate innovative programs at Connecticut public institutions.

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MINORITY REPORT

The majority report, while considerably improved from earlier versions, still lacks proper emphasis and needs substantial changes.

Its two most basic flaws are in recommending an all-powerful board of regents (called by the less revealing title of Board of Governors), and its refusal to state plainly that the present state system of higher education will need a much greater infusion of state funding just to carry on its basic purpose of providing low cost education for the children of working people.

We must keep reminding everyone that public higher education was created 120 years ago by federal statute, to provide education for children of "mechanics and farmers." The state's economy has changed much since then, but it is our children who are still our greatest, in fact our only, natural resource in Connecticut. We must see to it that this resource is not wasted by a penny-wise, pound-foolish state policy.

The disastrous effect which an all-powerful board with centralized control of a state system of higher education can bring about has been vividly shown during the past year in our neighboring state of Massachusetts. To give a board the power to close or merge existing institutions without regard for student needs, and with no recourse to veto power by the General Assembly, is an experiment of which Connecticut, "the land of steady habits," needs no part.

To carry out the manifold recommendations for planned and centralized management, including program budgeting, and a variety of new statistical and data collection requirements recommended by the majority, would mean even higher costs to the state or less money spent on actual teaching or research.

The Reagan budget cuts in federal funding for education to which Congress has unfortunately agreed will mean substantial losses to the public educational institutions of Connecticut, both in the field of higher education, and in elementary and secondary education. The cuts in federal scholarship aid and the stiffening of loan conditions will be a severe blow to the students of our state. How can these losses be made up without additional state funding unless the condition of our higher education system suffers a serious decline?

Little public attention has been given, for example, to the loss of monthly payments to children of deceased contributors to Social Security. This is the Reagan cut to the Social Security system which will rob thousands of Connecticut students of monthly payments which may prevent many of them from entering higher educational institutions, public or private.

Instead of stating the need for increased appropriations, the majority clearly assumes that state funding for public higher education will decrease in the years ahead. It speaks plainly of "dwindling resources" for higher education.

Even in the discussion section of the report, labeled "Funding Adequacy," the majority fails to take the responsibility, saying that "the adequacy of funding is the single most critical issue facing public higher education." That statement is attributed to "many educators."

The subsequent comparison of Connecticut's inadequate financing of higher education in comparison with other states again is attributed to "many educators." The majority, in effect, ducks the issue.

It fails to look upon higher education, as former Commissioner Gould puts it, as an investment, and regards it simply as an expense to the state. In this process, the majority considers its main duty as finding ways to do more with less. That is, to do more in the way of training students for the specific needs of business and industry, with declining financial resources. It echoes the call of the Connecticut Business and Industry Association for an "appropriately trained work force" as the most-needed resource. Notice that the term is not "educated," but "appropriately trained." In this respect, the message of the majority report is "a bigger bang for business with a smaller public buck."

Our economy, however, is based on a work force, including management, with a variety of skills, know-how, creative ability and ingenuity, as well as the capacity for adapting to changing conditions. Higher education can supply some of the needs of business in science, engineering, technology and certain professional fields, but why the assumption of the majority that public higher education must be devoted to the training for jobs which industry and business want to fill? What is the role of the private sector of higher education, free as it is to offer any courses or programs it believes its students need? If career education is what the students want, cannot the private sector which supports the private higher educational institutions get much of its manpower needs there?

Almost everyone can be taught to be creative, and given a background which will enable him or her to adapt to changing circumstances in life; but that requires more than routine training in specific tasks.

It is more likely to come from a broad general education in the humanities, sometimes referred to as liberal arts. That includes history, economics, foreign languages, philosophy and the arts.

Must the public sector be managed so as to keep these concerns to a minimum, and the private sector be free to supply the broader educational base?

Young people trained only for a specific job, whether computer programmer, laboratory technician or master of business administration, may find themselves out in the cold when the market becomes saturated with candidates. Unless they have the benefit of a broader resource of educational background, they may not be able to learn readily a new skill or a system of work.

Young people and their parents cannot be blamed for wanting the college graduate to step right into a well-paying job as soon as he or she obtains a college degree. A Commission like ours, however, should be voicing the

warning given by Lester Thurow, Professor of Management and Economics at MIT, that "everyone has forgotten that saleable working skills are seldom created in formal education. Education is the necessary background characteristic, but skills are acquired on the job."

It is significant that a major corporation, General Motors, in search of better management recruits, last year decided to change its management trainee policy. GM now sets a quota of 30 percent of the college graduates it hires with liberal arts degrees.

Organized labor long ago learned that on-the-job training is the best means of acquiring a variety of specialized skills. The joint apprenticeship system of labor and management in the construction industry, which provides an abundant supply of skilled tradesmen in various craft lines, is convincing testimony to the value of that system.

The bias of the report in favor of vocational training leads it to point the finger of fault at the concept of faculty tenure. It says, in effect, that this system of comparative job security is an obstacle to changing course offerings desired by students. Facts are, as brought out in the staff notes, that (a) the chief obstacle to the training of more computer personnel, for example, lies in the failure of the state to provide equipment necessary for this training; and (b) a sound core of tenured faculty is necessary to ride out the passing whims of students or the current needs of business for some types of trained personnel. It is probable, for instance, that if UConn had not maintained a tenured faculty in the School of Engineering, that now vital program would have been wiped out ten years ago after the student demand dropped off.

While the majority report does not explicitly call for abolition or rejection of tenure, it lays too great a stress on the high percentage of tenured faculty now in place. The implication is clear that this percentage must be reduced; and, given an all-powerful Board of Governors, it is probable that the majority would have no hesitation in whittling away at tenure, just as management in general will not apply seniority rules among manufacturing or office personnel unless they are required to do so by a union contract.

As a matter of fact, the present collective bargaining contracts for higher education faculty provide minimal protection for tenure in the event of program changes or budget cutbacks. They by no means guarantee job security for life.

Since teaching is the basic function of any college or university, it is natural that the administration and boards of trustees of each constituent unit would try to protect as long as possible the essential core of its teachers. This has resulted in extraordinary reductions in support and maintenance personnel, to the long-term detriment of the institutions involved. The staff notes describe in detail the destructive results of the present underfunding of the higher education system, but one has to dig into the text in order to get that vital information.

A new idea has surfaced in this recommendation, not previously discussed. That is to increase the total of scholarship grants to Connecticut students attending private colleges by 25 percent. This is said to mean an additional $1 million cost to the state.

Such scholarship grants have merit, but unless the total of appropriations needed for the proper functioning of the public higher education system, including the new recommendations of this Commission, are met by the state, this proposal should be considered one among many deserving goals for the future.

Another negative aspect of the summary of the report presented by the majority is its speculation about a "serious impact on enrollments," because of a projected 35 percent decline in college age population by 1990.

Former Chancellor Gould has warned us that such predictions about enrollments have proven to be wide of the mark in practically every case during past years. The 1981 enrollment figures for state higher education institutions just released by the Board of Higher Education fail to bear out any general decline in enrollments. While the Board itself had predicted an 0.5 percent decline in head count enrollment by 1985, the actual 1981 undergraduate head count was up by 2.2 percent. Even full-time equivalent (FTE) enrollment was up 0.2 percent, as against the BHE's projection of a three percent drop in FTE enrollment by 1985.

These figures give rise to the belief that, rather than declining, enrollments in state institutions may actually increase. The increasing number of adults taking courses part-time, and the soaring costs of higher education in the private sector would certainly suggest that trend.

We should also look critically at the assertion in the summary that there are administrative inefficiencies and wasteful duplication of programs in the higher education system. By omitting any adjectives such as "a few" or "some," the impression is left that such inefficiencies and duplication are characteristic of the whole system. The data cited do not support that conclusion.

In recommending changes in the statutes to give more power to the Board of Governors, the majority specifies adding the power to merge or close existing campuses. The Board presently may only recommend such action to the governor and the General Assembly.

That the majority report intends to have the Board exercise that power, if given the statutory authority, there can be no doubt. The majority report goes into great detail to prove what it maintains is the general under-utilization of classroom and laboratory facilities in the various parts of the higher education system. An impressive-looking formula, with all the appearance of mathematical certainty, is used to advance the proposition.

When the formula is tested, however, against the real life situation in two institutions, it produces an absurd result.

When applied to the Quinnebaug Valley Community College situation, for example, it comes up with a very low percentage utilization figure: only 39 percent for the latest year. What makes this so strange is that the classroom and lab facilities for Quinnebaug have not yet been completed. How can one evaluate the present utilization of an institution, which operates only afternoons and evenings in three other institutions which now use the buildings full-time on a normal schedule? Even the future utilization figure is estimated to be less than 50 percent. This leads to the unrealistic assumption that more students will not be attracted to new and properly designed facilities on a full-time day attendance basis.

The same curious result comes when the utilization formula is applied to Western Connecticut State College. Here the new classroom building has just been completed, and will be used in the second semester of 1981-82; but the figure for present utilization is less than 50 percent, according to the allegedly objective formula.

One must ask to what is the formula being applied. Is it being applied to the present buildings, short of space, or to the larger space being made available when the new building comes into use?

There is no question that some campus locations are under-utilized; but this should not be used to make it appear that the whole public higher education system is overbuilt and needs drastic physical trimming.

To shunt decisions regarding closure or merger of individual campuses to a lay board with who-knows-what knowledge or appreciation of the conditions and problems of students in the communities in all parts of the state is risky business.

A board of 11 public members appointed by the governor, as recommended by the majority, is apt to be composed of prominent people in various fields, who are busy with their own work, and probably devoting extra time to other community activities.

It should be noted that an analysis of attendance at meetings of the present Board of Higher Education by the public members showed an absentee record of about 33 percent.

Such an appointed board, even if the members had a better attendance record, would be inclined to follow the recommendations of the Commissioner of Higher Education and the Board's professional staff.

It is unlikely that this kind of board would have, or take the personal time to obtain, intimate knowledge of how a decision to close a campus, which on paper looked very cost-effective, might have a devastating effect on a particular district of the state. At a time when a snowballing recession is hitting some state areas with growing unemployment, and where plant or commercial closings may have meant the permanent loss of jobs and essential tax base, the closing of a college could be a solar plexus blow to the morale, as well as to the economic base of the region.

With the additional duties and responsibilities for the new board recommended by the Commission, it could reasonably be concluded that what is needed is a full-time board.

That would present problems, such as potential patronage, as well as additional expense to the state.

We in the minority recommend that if an all-public member board of 11 be established, five should be appointed by the governor, and six elected on a non-partisan basis, one from each congressional district in the state.

This means asking the General Assembly to give up its leaders' prerogative of appointing six members, as is now the law. To justify this, we are going to the same citizenry which elects the legislative leaders, and at the same time ensuring that all geographic districts in the state are represented on the board.

This would mean that the people seeking to serve on the board would necessarily be concerned with the problems of public higher education, and would also be willing to give the time necessary to do a conscientious job as board members. That they would also have to pass muster by their fellow citizens in an election is not the least advantage of the arrangement we recommend.

We also reject the majority recommendation #8, which would have all state funds for higher education going to the Board of Governors for allocation to each constituent unit. It would also give the board the power to decide how funding cutbacks would be "borne" by each constituent unit.

This flies in the face of the testimony by the administration of the various constituent units as to the difficulties created by the inflexibility of managing their budgets under the present system. Because of the necessity of clearing any meaningful shift of funds with other state agencies, the obstacles and delays are considerable.

This complaint focussed especially on the pre-audit controls exercised by the Office of Policy and Management. It is clear that these controls have often been used simply to delay the spending of funds already appropriated. Instead of recommending the abolition of the pre-audit device, the majority now adds one more bureaucratic hurdle to the spending of funds by the constituent units which have already been voted by the General Assembly. This recommendation should be rejected as unnecessary red tape.

The majority asserts that the present law governing the authority and powers of the Board of Higher Education is ambiguous regarding the authority of the board to make changes in programs of the constituent units.

The fact is that the board presently by law must bring in a master plan encompassing the system of higher education, which would include program changes as well as any recommendations regarding closure or merger of campuses.

The fact is that the present board has never presented such a plan.

The majority excuses this on the grounds that the board had lacked the tools to develop such a plan.

Actually, the present statute gives the new board all the powers necessary for cost accounting, program-based budgeting, and other management controls which are the essential part of the majority recommendations and generally approved by all Commission members.

The present Board of Higher Education actually has the authority under the present law to do much more in the way of coordinating the program offerings, not only of the public higher education system but of the private institutions of higher education in the state. It has never attempted to exercise this comprehensive coordinating authority. If the term "coordinating" means anything with regard to program offerings, it certainly would include the authority to limit or to forestall the offerings by any constituent unit of any programs that were unnecessarily wasteful or duplicative.

It is interesting that the staff analysis of the board's powers does not mention section 14 of 10-323e, which reads: "The board shall. . .coordinate programs and services thoughout public higher education and between public and independent institutions."

The present board has never attempted to involve independent institutions in this kind of coordination; and the job of coordinating programs throughout public higher education has not been carried out as it might well have been by a broad interpretation of the powers stated in this section.

It is unrealistic to urge the upgrading of admission standards for the constituent units of higher education, as the majority recommends in #18, 19 and 20 of the report, at a time when the prospects of an acute labor shortage face the state in the next decade. From a practical point of view, it may be necessary to relax those standards for a substantial number of potential students, if we are to provide graduates capable of filling the needs of business and industry, the professions, health care, the arts and sciences and other necessary functions such as government in the forthcoming decade.

The Board of Governors, therefore, should restrict itself to directing the constituent units to continue a strong affirmative action program, admitting a student body which would represent a cross-section of the state's population insofar as that is feasible. This should be followed up by intensive counseling and remedial efforts, to increase the likelihood of all students remaining in college and going on to graduation.

This is of particular importance to Black and Hispanic youth, which make up a large proportion of the student body in the major inner-city schools of the state.

There is no agreement on what causes the lesser academic performance of the average student in inner-city secondary schools; but poverty resulting from parents who cannot find a job at decent wages is certainly a major factor contributing to environmental deprivation and low motivation for academic performance.

While raising academic standards is greatly to be desired, that must take increased efforts in the primary and secondary schools as well as in the higher education institutions themselves. To project the claim that higher admission standards at the college level will result in better performance at the secondary and elementary level is dubious, to say the least.

The evidence presented to the Commission involved secondary schools in a New Jersey area served by one college, Trenton State. At a time when Reagan-dictated budget cuts are sharply reducing auxiliary and remedial services in local primary and secondary schools, such as English as a second language and mathematics, it is unrealistic to believe that raising standards for admission to college will somehow produce miraculous improvements in secondary school graduates' academic performances.

The proposal of the majority for achievement tests after the completion of the second year of higher education must already be complied with to some extent in the two-year institutions: the technical and community colleges.

To apply this requirement to the four-year institutions is a venture which the new Board should undertake with conditions of the institutions in mind, rather than with a standardized test for all institutions.

With respect to accessability of higher education to Connecticut students, the public system has a special responsibility. The basic state law provides that the opportunity for higher education shall not be denied, among other things, "on the basis. . .of economic condition." This is limited, of course, to the extent of "authorized expenditures"--the monies appropriated by the General Assembly.

By restricting these funds, especially in the scholarship category, the opportunity is, in fact, being denied to some potential students who would want to attend the University of Connecticut at the Storrs campus. With room and board, the UConn tuition and fees now amount to well over $5,000 a year per student.

This is an expense that cannot be afforded by many families of working people who are usually considered middle-class.

The majority report should definitely tie tuition and fees to an index of appropriate costs of higher education. That kind of index is available, but the majority wants to make the rise equivalent to the rise in this index, instead of making it a ceiling.

An appendix chart shows that applying the full index rise each year since 1976 would have resulted in almost 50 percent rise in these costs to the student, instead of the less than 30 percent actually experienced by students at Connecticut public higher education institutions.

We hope that further deliberations on this subject by the new Board, if one is created, will make the index figure a ceiling to be justified in each case, and not an automatic escalator of tuition and fee charges.

One could wish that the summary of the report had shown an appreciation of the positive values of the state's higher education system. Even though more than half of Connecticut high school seniors going on to higher education enter colleges outside the state, the latest enrollment figures by the Board of Higher Education itself show almost 100,000 students in the Connecticut public system. Many of these, and a growing number, are adults returning for part-time courses, or entering such courses for the first time.

The testimony of the various constituent units shows that the vast majority of their graduates stay in Connecticut after finishing their studies. They help to make our state one of those with the highest percentage of people with college degrees in the entire nation. The tone of the report, however, makes it appear that the system is less productive than it is, and neglects to point out its continuing contributions to the health of the state's economy and the development of its people.

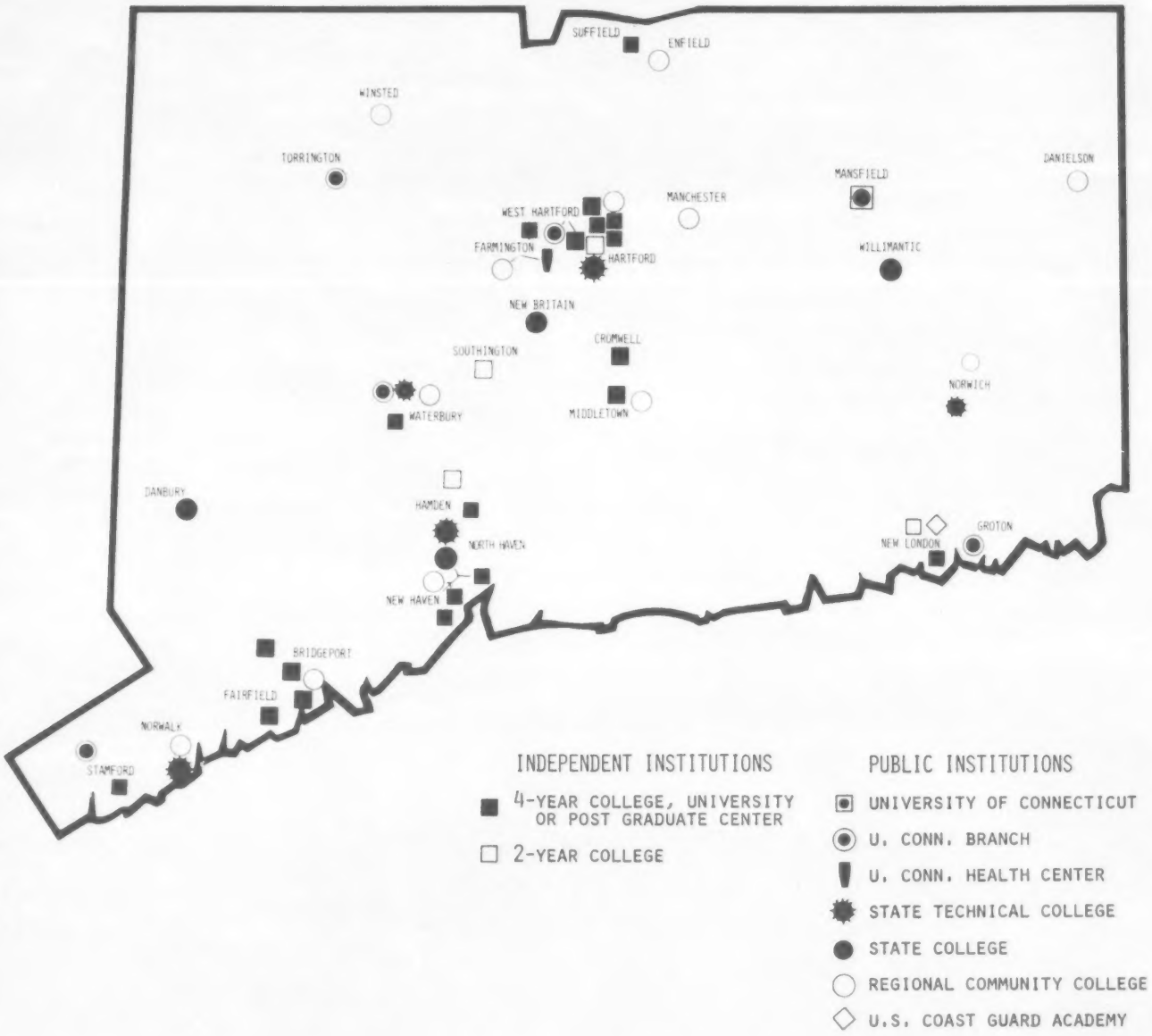
February 1, 1982

Signed: John J. Driscoll
Thomas D. Kiddy
John F. Flynn
William J. O'Brien
Peter A. Reilly

APPENDICES

APPENDIX I-A

CONNECTICUT INSTITUTIONS OF HIGHER EDUCATION



Source: Anticipating the 1980s: Report and Recommendations to the General Assembly on Higher Education in Connecticut (Hartford: Board of Higher Education, 1979), p. I-4.

Appendix I-A (continued)

STATE UNIVERSITY
University of Connecticut
Main Campus (Storrs)
Avery Point (Groton)
Hartford (West Hartford)
Stamford (Stamford)
Torrington (Torrington)
Waterbury (Waterbury)
Health Center (Farmington)

STATE COLLEGES
Central Connecticut
New Britain
Eastern Connecticut
Willimantic
Southern Connecticut
New Haven
Western Connecticut
Danbury

REGIONAL COMMUNITY COLLEGES
Asnuntuck
Enfield
Greater Hartford
Hartford
Housatonic
Bridgeport
Manchester
Manchester
Mattatuck
Waterbury
Middlesex
Middletown
Mohegan
Norwich
Northwestern Connecticut
Winsted
Norwalk
Norwalk
Quinebaug Valley
Danielson
South Central
New Haven
Tunxis
Farmington

STATE TECHNICAL COLLEGES
Greater New Haven
North Haven
Hartford
Hartford
Norwalk
Norwalk
Thames Valley
Norwich
Waterbury
Waterbury

BOARD FOR STATE ACADEMIC AWARDS
Charter Oak College
Hartford

INDEPENDENT INSTITUTIONS
Albertus Magnus College
New Haven
Briarwood College*
Southington
Bridgeport Engineering Institute
Bridgeport
Connecticut College
New London
Ed. Ctr. for Human Development
West Hartford
Fairfield University
Fairfield
Hartford College for Women*
Hartford
The Hartford Graduate Center
Hartford
Hartford Seminary
Hartford
Holy Apostles College
Cromwell
Mitchell College*
New London
Mt. Sacred Heart College*
Hamden
Post College
Waterbury
Quinnipiac College
Hamden
Sacred Heart University
Bridgeport
St. Alphonsus College
Suffield
St. Basil's College
Stamford
St. Joseph College
West Hartford
Trinity College
Hartford
University of Bridgeport
Bridgeport
University of Hartford
West Hartford
University of New Haven
West Haven
Wesleyan University
Middletown
Yale University
New Haven

*Two-year colleges

Source: "Public and Independent Colleges and Universities in Connecticut, Directory 1981-82" (Hartford: Board of Higher Education, 1981).

APPENDIX I-B

SUMMARY OF STUDIES AND ACTIONS
ADDRESSING PROBLEMS OF HIGHER EDUCATION
IN CONNECTICUT

1. Study Commission on Higher Education (Citizens Task Force assisted by the U.S. Department of Health, Education and Welfare, Office of Education), 1964

Recommendation -- Single statewide system to be governed by a Commission for Higher Education having full powers of organization and separate boards of trustees for each public institution.

Outcome -- In 1965, state system created with coordinating board (Commission for Higher Education) and separate governing boards for state colleges, community colleges and the University of Connecticut. Technical colleges remained under the jurisdiction of the State Board of Education.

2. Etherington Commission, The Report of the Governor's Commission on Services & Expenditures, State of Connecticut, October 1971.

Recommendations -- Fifteen recommendations, including:

1) Strengthen Commission for Higher Education and change its name to Board of Regents. Give board authority for master planning, academic program objectives, budget consolidation and approval, allocation of capital and operating funds, admissions policies, personnel and salary policies, research and development, coordination with independent colleges, selection and termination of college presidents and student financial aid.

2) Abolish existing governing boards for state, community, and technical colleges and the University of Connecticut.

5) Develop a statewide master plan to guide the growth of public higher education.

6) Establish a single two-year college system.

Outcome -- Recommendations generally not implemented. Long-range planning legislated (Public Act 194-1972).

3. Commission for Higher Education, Master Plan for Higher Education 1974-1979, January 1974

Recommendations -- Total of 117 recommendations made, including recommendation for retention of existing structure consisting of governing boards and a coordinating commission.

Outcome -- By 1976, progress had been made on 85 of these recommendations.

(continued)

4. Legislative action creating a Board of Regents passed in House, failed in Senate, 1976. Issue referred to Legislative Program Review and Investigations Committee for study.

5. Committee on the Structure of State Government (Filer Committee), Better Organization For Better Government, December 1976.

Recommendations -- Abolish all of the coordinating and governing boards and have all public higher education administered by a commissioner reporting to a board of persons, not employed by public or private educational institutions, who would be appointed by the governor and confirmed by the General Assembly. Three system chancellors would report to the commissioner: chancellor of the University of Connecticut, chancellor of the Connecticut state colleges, chancellor of Connecticut community and technical colleges.

Outcome -- No action.

6. Legislative Program Review and Investigation Committee, Connecticut General Assembly, Strengthening Higher Education in Connecticut, April 1977.

Recommendations -- Create a Board of Higher Education to replace the Commission for Higher Education that shall: establish statewide higher public education policy; prepare (by 1/1/79) a reorganization proposal; select a Commissioner of Higher Education to serve as the board's CEO; prepare a consolidated public higher education budget (with limitations placed on pre-audit controls); approve constituent unit board resource utilization plans; prepare a single priority listing of all capital projects and recommendations to merge, close or otherwise alter existing programs, facilities or campuses; enforce quality standards through licensing and accreditation; develop and maintain a central higher public education information system; coordinate programs and services between public and private institutions; approve the size of the executive staff and duties, terms and conditions of employment of the executive secretary and executive staff of the constituent units (subject to general statutes limitations).

Outcome -- The Board of Higher Education was created (Public Act 77-573). Budget presentation was improved but is limited by data availability and requirements to adhere to state budget processes and formats. A pilot project was begun on a library and funds for educational equipment (S.A. 80-23) that limited pre-audit functions of the comptroller and state central budget authority. In general, the legislature struck a middle ground between decentralization and a single governing board.

7. Board of Higher Education, Anticipating the 1980s: Report and Recommendations to the General Assembly on Higher Education in Connecticut, September 1979.

(continued)

Appendix I-B (continued)

Recommendations -- Abolish existing constituent unit boards; replace with a board for two-year institutions (to include some branch campuses of UConn) and a board of senior institutions. The Board of Higher Education would be retained with increased powers. New boards would be instructed to plan for institutional and programmatic consolidations. Thirty-four other recommendations made on enrollment planning, minority enrollment, student financial assistance, extension funding, fiscal flexibility, tuition and fees, programs, the capital planning process and a consolidated facilities plan.

Outcome -- The restructuring proposal was not enacted. Progress has been made on 15 of the remaining 34 recommendations.

8. Educational Planning Committee, Board of Education, Board of Higher Education and the Office of Policy and Management (Hanson Committee), Educating for Employment, June 1980.

Recommendations -- Thirty recommendations made on the improvement of data collection and analysis; the need for area and regional planning; and the active involvement of business, labor and community organizations in employment training and vocational education programs.

Outcome -- There has been some progress on 22 of the recommendations, including all eight of the recommendations the committee considered of major importance.

9. Board of Higher Education Task Force on Institutional Technology, A Prospectus for Educational Technology in Connecticut, July 1980.

Recommendations -- Ten recommendations made on the formation, composition, funding and programmatic activities of a central authority to facilitate and promote the use of educational telecommunications and other technologies with potential for educational applications.

Outcome -- Legislation proposed in 1981 has been under study by the Education Committee, but implementation prospects seem dim because of financial constraints.

APPENDIX II

COMMISSION HEARINGS

The Commission held five public hearings at the state capitol during September and October 1981. Part of each public hearing was devoted to a single segment of higher education. Representatives were asked to discuss the questions already posed, to raise additional concerns, and to present fresh ideas for grappling with the state's future needs from the particular perspective of the segment they represented. For the remainder of each hearing, the public was invited to comment on the issues being considered by the Commissioners.

All hearings were held in the Hall of the House of Representatives on the following dates:

September 24	- State Technical Colleges
October 1	- Regional Community Colleges
October 9	- State Colleges
October 13	- The University of Connecticut and Board for State Academic Awards
October 15	- Independent Colleges and Board of Higher Education

The Commission explored the following questions:

1. How should the governance and structure of public higher education be modified so that the system is responsive to the social and economic changes of the 1980s?

2. What can business and others do to assist institutions of higher learning to be more cost effective in a period of decreasing fiscal resources and inflation?

3. Where does the responsibility for establishing standards and ensuring quality in admissions, teaching, academic advising, grading, and degree requirements lie? Is it with the faculty directly, with the faculty through their bargaining units, with boards, with the administration or with accrediting bodies?

4. Should tuition revenue go to all of the public institutions rather than the state's General Fund?

5. How can business, labor and education work together to ensure that a better match exists for the individual between degree programs and the employment needs of the economy? What contribution can liberal arts degree programs make to education for employment?

6. Whose responsibility is it to provide the education and training for the jobs that have the most potential in the next decade?

7. What new kinds of joint programs can business, labor and education develop to provide people with useful help in career planning?

8. How do we improve communication between business and education about research projects in progress in both sectors?

(continued)

Appendix II (continued)

9. What are some new technological areas that through cooperation between business, education and labor might be used to attract new industry and expand present businesses?

10. What effect does the need for a college degree as a credential for professional-managerial positions have on the demand for higher education and on the courses of study?

11. What effect does secondary school preparation have on the ability of higher education institutions to educate and train for the needs of the economy? Conversely, what effect do higher education institutions have on the standards of secondary schools and the preparation they provide?

12. What mechanisms do higher education institutions have to modify their curricula and their allocation of resources to respond to changes in the economy?

13. How does a basically open-admission policy in the community and state colleges affect the quality of education in those institutions and the state's elementary and secondary schools?

14. How can state institutions increase access to upper-level courses of study which prepare students for areas of growth in the economy?

15. How can transfers between Connecticut's institutions be improved?

16. How can higher education make better use of telecommunications and computer-assisted learning?

17. What additional higher education programs or services are needed to serve the state's minority population equitably?

18. How can we best address the present interaction and competition between public and private institutions so that we will preserve our ability to meet increasing educational demands in future decades?

19. Should students pay a greater proportion of the cost of higher education? Should full-time and part-time students be charged the same per-credit charges? Should any services be entirely supported by user fees?

20. Is the present program of federal and state need-based student aid adequate? Should the state change its method of allocating financial aid resources to meet the needs equally of full-time, part-time, degree and non-degree students?

21. What effect does faculty tenure have on the flexibility of curricula?

22. What changes might be made to improve the educational preparation of elementary and secondary teachers?

APPENDIX III-A

ENROLLMENT PROJECTIONS

Demographic changes will have a significant impact on college enrollments in Connecticut in the next decade. The number of high school graduates is expected to decline 36 percent by 1990. This decrease in the number of people reaching college age suggests that the last decade's enrollment boom will be replaced by an extended decline. The magnitude of the decline, however, is difficult to predict. The Connecticut Public Expenditure Council (CPEC) in 1981, "Planning Two-Year Higher Educational Facilities: Common Sense and Hard Choices" News and Views, no. 94 (Hartford: Connecticut Public Expenditures Council, May 1981), projected a 37 percent decrease in full-time equivalent enrollment in the state's two-year public higher education facilities by 1990. A Board of Higher Education (BHE) study in 1981, "Demographic Changes and Their Impact on Higher Education Enrollment in Connecticut," BHE Reports, (Hartford: Board of Higher Education, September 1981), projected a five percent decline for the same group of schools, with an 11 percent decline for all institutions in the state.

The disparity in the projections stems from differing assumptions and methodologies. The CPEC study focuses solely on the declining number of high school graduates and projects enrollments in two-year programs from the number of high school graduates in each school's region. This study also implicitly assumes that the participation rates of each age group will decline. The BHE study assumes that older adult students will take up much of the slackening enrollment in younger age groups. It also assumes that students of the same age and from the same residential areas will continue to attend the same institutions at the same rates as they did in 1980. As the older age categories swell--a result of the aging of the baby-boom generation--a larger percentage of students will come from these age groups.

Although BHE's methodology is the more comprehensive, BHE projections depend solely on demographics, which are only one of the major influences on future enrollment patterns. Actual future levels of enrollment, as the study emphasizes, must take into account the influence of a variety of social, economic, and political factors on participation rates. Individual institutions are vulnerable to demographic changes to different degrees, depending on the recruitment area of freshmen, admission standards, tuition, and the relative demand for available positions, among other characteristics. For example, the Commission has projected--on the basis of demographics alone--a 19.2 percent decline in enrollments at one major private university. However, since the demand for places at this institution greatly exceeds the supply, the institution will be able to overcome completely the decline in traditional college-age applicants. UConn is also expected to overcome the negative demographic impact. Four-year regional independent institutions will be less successful in stemming declining enrollments, as students currently attracted to these schools may shift to more selective institutions. On the other hand, these schools may be able to recruit more adult learners. Connecticut's state colleges will probably lose a large number of students to more selective institutions. The state's regional community colleges may lose students as a result of increased competition for the adult learner. In the state technical colleges, demand currently exceeds the supply of places, easing the pressure of demographic changes on enrollments in these schools.

The following table shows projected demographic effects on enrollment for various types of institutions with estimates of the additional effects of the recruitment area of freshmen, admission standards, tuition and the relative demand for places in the institution.

(continued)

Appendix III-A (continued)

	Demographic Impact on Undergraduate FTE Enrollment, Percentage Change 1980-1990	Possible Variations in Enrollment Projections as a Result of Additional Factors				
		Much Lower Enrollment	Lower Enrollment	Same as Projected Enrollment	Higher Enrollment	Much Higher Enrollment
Four-Year National Independents	-18.7					X
UConn and Branches	-16.1				X	
Campus A	-15.8					
Campus B	-10.8					
Campus C	-19.6					
Campus D	- 9.8					
Campus E	-21.1					
Campus F	-21.7					
Regional Independent Institutions	-10.9			X		
State Colleges						
Institution A	- 6.2		X			
Institution B	-10.8		X			
Institution C	-11.8		X			
Institution D	- 5.5			X		
Regional Community Colleges						
Institution A	+ 4.9		X			
Institution B	+ 1.2		X			
Institution C	- 2.5		X			
Institution D	- 6.1		X			
Institution E	- 0.3	X				
Institution F	- 4.2		X			
Institution G	-10.9			X		
Institution H	- 7.8		X			
Institution I	+ 3.2	X				
Institution J	+ 0.3		X			
Institution K	+ 1.0		X			
Institution L	+22.2	X				
State Technical Colleges						
Institution A	-15.6				X	
Institution B	- 8.2				X	
Institution C	- 6.7				X	
Institution D	- 8.3				X	
Institution E	- 9.0				X	

Source: Commission estimates based on demographic data by recruitment areas of institutions.

APPENDIX III-B

ENROLLMENT AND CAPACITY UTILIZATION

Capacity utilization is a measure of the relationship between an institution's capacity (classroom and laboratory space) and its full-time enrollment.

In the following chart, a capacity utilization measure of 1.0 represents an ideal or optimal use of the institution's available classroom and laboratory space. A capacity utilization measure of .912 implies that 91.2 percent of this ideal capacity is used. Capacity utilization greater than 1.0 is also possible if institutional facilities are being used more than the optimal amount.

The Commission made full-time equivalent capacity estimates (C) using modified California standards for hours of operation, room utilization, station occupancy, and average credit hours per FTE student. The California formula multiplies the number of student stations (S), based on the physical space available for classrooms and laboratories in each institution, by the number of hours of operation per week (T), percent utilization of rooms (R), and percent occupancy of student stations (O) and then divides by average credit hours per full-time equivalent student (H). Thus, $C=(SxTxRxO)/H$.

The Commission made the number of hours of operation per week less stringent than the California standard, lowering the figure from 70 hours to 50 hours for classrooms and from 45 hours to 35 hours for laboratories. Optimal utilization of classroom facilities at an institution thus assumes the following:

a.) the institution operates 50 hours per week (e.g., 8 a.m. to 6 p.m. five days per week);

b.) classrooms are used 75 percent of the time, or 37-1/2 hours per week;

c.) student stations are 65 percent occupied on average--each seat is occupied slightly more than 24 hours per week (less than five hours per day);

d.) a full-time equivalent student takes 15 credit hours of instruction each week.

Using either actual or projected FTE enrollments, planners can develop criteria for identifying schools that may already or will be operating below capacity and may be suffering large enrollment drops. Such schools would warrant further study to determine the reasons for their situation and possible remedies. If a five-year planning period projection of FTE enrollments were used, for example, an institution might be identified for further study if its present or future capacity utilization was less than 60 percent or its projected enrollment decline was more than 12 percent over the planning period. Alternative configurations could be determined for different enrollment projection periods.

The table on the following page shows the current capacity utilization of Connecticut's public institutions, the change in FTE enrollment from 1976 to 1981, and a projection of future capacity utilization based on the increase or decrease in enrollment over the 1976-1981 period. Present capacity utilization equals full-time equivalent enrollment in Fall 1981 (E) divided by capacity (C) and future capacity utilization equals projected full-time equivalent enrollment (E*) divided by capacity (C).

(continued)

Appendix III-B (continued)

Institutions with asterisks (*) were found to have a present or future capacity utilization of less than 60 percent or their enrollment decline was more than 12 percent over the 1976-1981 period. In an operating system, these institutions would be subject to further study, which in many cases would clarify special situations, such as when a college uses high school space that does not conform to the California or established capacity standard. The measure is thus just one of a number of useful indicators of the institution's operations.

	Present Capacity Utilization	FTE Enrollment Change 1976-1981[a]	Future Capacity Utilization[b]
University of Connecticut			
Campus A	.736	.976	.718
* Campus B	.254 *	1.157	.294 *
Campus C	.698	1.082	.755
* Campus D	.560 *	1.028	.576 *
* Campus E	.456 *	1.141	.520 *
* Campus F	.432 *	1.002	.433 *
State Colleges			
Institution A	.925	.885	.819
Institution B	.999	1.043	1.042
* Institution C	1.393	.814 *	1.134
* Institution D	.563 *	.964	.543 *
Regional Community Colleges			
Institution A	.884	.930	.866
* Institution B	.751	.634 *	.476 *
Institution C	1.674	.936	1.567
Institution D	1.451	.978	1.419
Institution E	1.230	1.209	1.487
Institution F	.706	1.043	.736
* Institution G	.727	.836 *	.608
Institution H	.693	.883	.612
* Institution I	.390 *	1.263	.493 *
Institution J	1.191	1.108	1.320
Institution K	1.032	.948	.978
Institution L	1.383	1.042	1.441
State Technical Colleges			
* Institution A	.584 *	.835 *	.488 *
Institution B	.711	1.358	.966
Institution C	.881	1.047	.922
Institution D	.742	---	---
Institution E	.702	1.145	.804

[a] The actual FTE enrollment change for the past five years is presented, although in actuality the calculation would be based on projected full-time equivalent (FTE) enrollment (E*) divided by current FTE enrollment (E). If this ratio is greater than one, an enrollment increase would be projected; if this ratio is less than one, an enrollment decline would be expected. Therefore, if E*/E = 1.02, a two percent increase in FTE enrollment would be projected over the planning period. If E*/E = .92, on the other hand, an eight percent decline would be expected.

[b] Future capacity utilization assumes that enrollment trends in the last five years (1976-1981) continue in the next five years (1981-1986). Ideally, an enrollment projection would be used in this calculation.

* Institution would be identified as needing further study.

Source: Commission estimates, based on modified California formula.

APPENDIX III-C

TENURE

Tenure helps to ensure academic freedom by protecting faculty members whose teaching is controversial or unpopular. It also provides job security for those who have met professional standards and have completed a six- or seven-year probationary period.

In the 1950s and 1960s, when all institutions of higher education were expanding and competition for faculty was high, tenure was granted almost routinely at many colleges. But in the 1980s, fewer students and smaller faculties require careful analysis of tenure's role in maintaining a balance between continuity of disciplines and responsiveness to changing educational demands.

Like other forms of job security, tenure requires the employer to commit a fixed portion of salaries and benefits to protected individuals. As more faculty are tenured, more of the budget must be set aside to pay them. Less of the budget is then available to hire additional faculty or to add disciplines to the curriculum. Tenure decisions therefore affect an institution's ability to respond to changing student and social needs.

An ideal staffing plan must provide for a core faculty that is always able to provide basic coverage in each discipline required by the institution's mission. To the degree possible, tenured faculty who retire or resign from this core group should be replaced by individuals able to fill the gap. New appointments should reflect consideration of the age distribution in the tenured core so that there will be a continuous infusion of new ideas in every academic department.

When well-distributed by age and specialization, a core of tenured faculty helps maintain academic departments even when there are short-term changes in enrollment patterns. Two examples make this clear. Colleges that discontinued instruction in modern languages in the 1970s because of lack of student interest are now criticized for lowering bachelor's degree requirements. Engineering departments and schools saw sharp drops in majors during the 1970s, but these schools are now experiencing peak enrollments. Had faculty in engineering not been protected by tenure, the most distinguished scholars and practitioners could have been laid off.

APPENDIX III-D

PERCENTAGE OF FULL-TIME TENURED TEACHING FACULTY AT FOUR-YEAR PUBLIC INSTITUTIONS IN CONNECTICUT BY SCHOOL/DEPARTMENTAL AFFILIATION 1981/82

Department/School	UConn[a] %	State Colleges			
		Central %	Eastern %	Southern %	Western %
Liberal Arts & Sciences	79.3[b]				
Accounting		60			0
Admin. Science/Mgt.		87		67	21
Agri. & Nat. Res.	77.8				
Art/Fine Arts	75.8	86	66	100	60
Biology		95	86	93	77
Bus. Comm./Bus. Adm.	49.4		38		
Chemistry		100		100	62
Communics./Disorders			100	67	
Computer Sciences				50	d
Counseling				100	
Economics		67		53	
Education	84.9	100	80	95	92
Bus. Education		86			
Ed.Foundations & Research				100	
Phys. Ed.		85	80	e	60
Spec. Ed./Human Services		43		96	
Vocational/Tech. Ed.		44			
Engineering	63.3				
English		91	81	97	71
Geography		80		83	
Health Sciences	41.2			78	50[c]
History		100	100	100	100
Home Economics	57.7				
Industrial Arts		80			
Industrial Technology		17			
Languages		100	75	100	100
Law/Justice & Law Adm.	67.7				20
Library Science				91	
Marketing		57			
Mathematics		83	75	100	84
Math & Statistics		78			
Music		90	80	100	75
Nursing	48.9	33		57	58
Pharmacy	51.6				
Philosophy		83		100	100
Physics/Earth Science		79	89	86/100	100/100

(continued)

Appendix III-D (continued)

Department/School	UConn[a] %	State Colleges Central %	Eastern %	Southern %	Western %
Political Science		50	100	100	
Psychology		85	89	100	85
Reading		87		67	
Recreation & Leisure				33	
Social Science					78
Social Work	58.5			70	
Sociology/Anthropology/ Social Science		73	88	92	
Speech		57		100	
Theater		83		100	58

a Faculty in centers and institutes are counted according to their school or college affiliation, for 1980/81.

b Many of the individual departments listed below have been aggregated in this figure.

c Health education.

d Computer science faculty included in mathematics faculty percentage.

e Men's physical education, 81 percent; women's physical education, 87 percent.

Note: Data for the state technical colleges and community colleges are unavailable.

Source: Commission survey.

APPENDIX III-E

PERCENTAGE OF FULL-TIME TENURED FACULTY
IN CONNECTICUT PUBLIC INSTITUTIONS, 1981/82

	%
University of Connecticut	72
Avery Point	75
Hartford	86
Stamford	48
Torrington	60
Waterbury	88
State Colleges	
Central	80
Eastern	81
Southern	89
Western	72
Regional Community Colleges	
Asnuntuck	41
Greater Hartford	69
Housatonic	89
Manchester	78
Mattatuck	82
Middlesex	96
Mohegan	84
Northwestern	90
Norwalk	76
Quinebaug Valley	70
South Central	68
Tunxis	62
State Technical Colleges	
Greater New Haven	22
Hartford	82
Norwalk	89
Thames Valley	82
Waterbury	90

Source: Commission survey.

APPENDIX III-F

EXISTING RESPONSIBILITIES, BOARD OF HIGHER EDUCATION;
PROPOSED RESPONSIBILITIES, BOARD OF GOVERNORS

	Existing Responsibilities, Board of Higher Education	The Commission's Proposed Responsibilities for Board of Governors
Policy	- Establish statewide policy for Connecticut's system of public higher education.	- Same.
	- Review policy developed by each constituent unit to assure that responsibilities are covered and institutional policy is consistent with state policy, provided policy concerning academic freedom, academic standards for course and degree work and internal organization and governance not be included.	- Review policy developed by each constituent unit to assure that responsibilities are covered and institutional policy is consistent with state policy. Constituent unit boards shall establish policies concerning academic freedom and content of course and degree programs, consistent with institutional missions, within quality guidelines adopted by the Board of Governors.
	- Prepare and present to the governor and General Assembly legislative proposals affecting public higher education.	- Same.
Budget	- Prepare and present to the governor and General Assembly in accordance with section 10-323F a consolidated public higher education budget.	- Prepare and present consolidated budget. - Develop formula- and/or program-based budgeting system. - Allocate budgetary appropriations among institutions. - Administer program innovation and improvement fund. - Prepare consolidated five-year capital budget establishing statewide priorities.
Conditions, Needs, Mergers and Closures	- Prepare for the governor and the General Assembly periodic reports on the conditions and needs of the system, including but not limited to a single priority listing of all capital projects and recommendations.	

(continued)

Appendix III-F (continued)

	- Make recommendations to merge, close, or otherwise alter existing programs, facilities, or campuses.	- Develop criteria for measuring institutional effectiveness and viability. - Have authority to merge or close institutions that are no longer viable.
Review Plans	- Review and approve plans received from the constituent unit's boards for the continuing development and maximum utilization of the state's public higher education resources.	- Same, with clarification of responsibility to approve capital expenditures before submission to the Bond Commission.
Planning	- Prepare for approval by the governor and the General Assembly a biennial master plan for public higher education establishing objectives to achieve the statutory goals of higher education. The master plan shall include, but not be limited to, the following elements: (1) goals for the system, (2) the number and location of institutional units, (3) the role and scope of each unit, (4) distribution of enrollment, (5) utilization of existing facilities and the need for new facilities, (6) program distribution and the need for program revision, including termination of unproductive, obsolete or unnecessary duplicative programs, (7) measurements designed to improve opportunity in higher education, institutional responsiveness to the changing needs of society and institutional productivity, including optimal use of new media and technologies, and (8) transfer of students between institutions and programs.	- Prepare, in consultation with the institutions and the constituent units, a five-year operating plan to be annually updated, addressing the areas contained in Board of Higher Education master planning legislation. - Provide to the constituent units and institutions projections of enrollment and economic forecasts. - Develop systemwide mission statement. - Be responsible for implementation of the plan: monitoring results based on indicators such as program enrollments, retention rates, degrees awarded, and academic quality. - Require the initiation, modification, consolidation, or elimination of programs as necessary.
	- Review recent studies of the need for higher education services with special attention to those completed pursuant to legislative action and, to meet such needs, initiate additional programs of services through one or more constituent units.	- Same. Also provide for the conduct and periodic updating of an analysis of the educational and training needs of the citizens and the economy of Connecticut.
	- Appoint advisory committees to assist in defining and suggesting solutions to the problems and needs of higher education.	- Same.

(continued)

	- Develop and maintain a central higher education information system.	- Same, with emphasis on a budgeting and information system tailored to the needs of the public higher education system in Connecticut and the development of a uniform reporting system.
Program Coordination	- Coordinate programs and services throughout public higher education and between public and independent institutions.	- Initiate and coordinate programs and services throughout public higher education and between public and independent institutions. - Implement a statewide transfer agreement governing all public institutions.
Academic Standards	- Develop criteria to ensure acceptable quality in programs and institutions and enforce standards through licensing and accreditation (also, 10-330, 10-330a).	- Same. Also, determine distribution of programs considering need, unnecessary duplication and cost effectiveness. - Develop academic profile of entering freshmen at each senior public institution and technical college, to be used as a "floor" for the profiles of future entering classes. Also, Board empowered to develop minimum high school course requirements for entrance. - Ensure that a basic skills test is selected or developed to be administered to all students entering public institutions for placement.
	- Encourage and aid in the development of new and improved programs and methods in order to recruit and train or retrain personnel needed in such programs.	- Coordinate efforts to increase enrollment and retention of disadvantaged students. - Board empowered to select or develop uniform policies governing academic standards and a set of exit requirements for mastery during the first two years of college.

(continued)

Appendix III-F (continued)

		- With the State Board of Education, undertake a thorough review of criteria and procedures for approval of teacher training programs and explore methods of attracting high-quality students to the teaching profession.
Financial Aid and Tuition	- May initiate and shall, pursuant to sections 10-38h, 10-108c(a), 10-119 and 10-119(a), approve changes in tuition and fee schedules of the constituent units of the state system of higher education.	- Same; tuitions indexed to Higher Education Price Index. Examine fee structure.
	- Student financial aid policy and administration of statewide student financial aid programs (section 10-116k as amended by P.A. 81-157).	- Same.
Other	- Shall be designated the state postsecondary education commission...to section 1202(a) of Public Law 92-318.	- Same, and administer federal programs for higher education requiring administration by a single state agency.

Note: Other statutory responsibilities not specifically addressed would continue as currently stated in Board of Higher Education statutes.

Source: Existing responsibilities are excerpts from Connecticut General Statutes.

APPENDIX III-G

PROPOSED RESPONSIBILITIES FOR
CONSTITUENT UNIT BOARDS AND BOARD OF GOVERNORS

Area	Constituent Unit Boards	Board of Governors
Policy	- Establish unit and institutional policy consistent with statewide policy.	Establish statewide policy for Connecticut public higher education.
Budget	- Review and approve institutional budgets and forward to Board of Governors (BOG).	- Develop budget guidelines. - Consolidate and present budget. - Allocate appropriations among constituent units & institutions.
Mergers and Closures	- Make recommendations regarding institutional mergers/closures. - Develop, in conjunction with institution, special plans addressing institutional problems. - Provide for orderly transitions in merger/closure situations.	- Identify, using stress indicators, institutions whose viability is threatened. - Initiate special planning process. - Have authority to merge or close institutions.
Facilities and Capital Budgeting	- Propose facility planning and capital budget priorities. - Oversee maintenance and repair of campus facilities. - Enter into contracts on lease, use and occupancy agreements.	- Prepare consolidated capital plan. - Approve capital expenditures before submission to Bond Commission. - Monitor capital budget projects through project management system.
Planning	- Provide consultation and input to five-year operating plan and updates. - Develop constituent unit mission statement and coordinate institutional specializations within mission framework, for review and approval by BOG. - Prepare constituent unit plan. - Assist institutions in preparation of institutional plans. - Collect and provide data as required for planning.	- Prepare five-year operating plan, including guidelines and timetables for constituent units and institutions. - Review and approve institutional and constituent unit missions. - Initiate, alter or terminate programs. - Develop management information and uniform reporting system.

(continued)

Appendix III-G (continued)

Area	Constituent Unit Boards	Board of Governors
Program Coordination	- Coordinate programs and services of institutions within unit. - Implement a public systemwide transfer agreement.	- Coordinate programs and services throughout Connecticut higher education system. - Establish transfer agreement.
Academic Standards	- Recommend approval of new academic programs. - Award degrees.	- Licensing and accreditation. - Development of academic profile and high school course requirements for admission. - Implement a basic skills test for placement purposes; exit exams.
Personnel Policies	- Select and appoint institutional presidents. - Approve tenure appointments. - Redeploy faculty within the unit. - Hire institutional administrative and faculty staff. - Develop faculty and staff training or retraining programs. - Develop personnel policies subject to BOG guidelines. - Negotiate collective bargaining agreements.	
Financial Aid and Tuition	- Handle transfers between accounts. - Establish student fees, subject to state guidelines and approval. - Administer and allocate extension and ancillary service funds, subject to BOG approval.	- Initiate tuition and fee policies. - Develop policy and administration of student financial aid programs.

APPENDIX III-H

FISCAL INFLEXIBILITY IN CONNECTICUT PUBLIC HIGHER EDUCATION

The Board of Higher Education in its 1979 report, Anticipating the 1980s, indicated that the lack of fiscal flexibility in Connecticut's public higher education system has been a concern for many years. Numerous reports suggest that higher education's ability to serve business, industry and government, as well as students, would be greatly enhanced if the system gained more administrative flexibility in the use of its financial resources. Among these reports were the 1977 study on higher education reorganization conducted by the Legislative Program Review and Investigations Committee, the Filer Committee's 1976 study of the structure of Connecticut's state government and the Etherington Commission report on state services and expenditures in 1971.

Since the Board of Higher Education's 1979 report, the General Assembly passed several measures decreasing central fiscal controls. In 1980, Special Act 80-23 established a two-year pilot project for the purchase of educational equipment and library media by the state colleges, the community colleges and the technical colleges. The act allows each board of trustees to designate funds to be used for the purchase of educational equipment and library media by each college under its jurisdiction. Once the funds are designated, the expenditures are determined by each college, within the policies of the board, and are not subject to approval by other state agencies. The authorization for the pilot program is in effect until June 30, 1982.

Public Act 81-374, effective July 1981, increases flexibility for the University of Connecticut Health Center. This act established a three-year pilot program under which the Health Center can make purchases and lease space for activities financed by other than General Fund appropriations without the approval of other state agencies. In 1981, legislation was passed allowing the university to retain tuition funds. Although the university must request and receive an allotment before making any spending commitments, it has more flexibility with these funds than with expenditures from its General Fund appropriation.

Despite these gains, fiscal inflexibility is a continuing problem. Before spending General Funds appropriated for their operations, higher education institutions must obtain approval from one or more central agencies for many purchases exceeding $200, out-of-state travel, filling of classified positions, lease or purchase of data-processing equipment, contracts of all types, and transfers of more than $10,000 between appropriation categories. The colleges must obtain some of these same approvals to spend funds received as student fees, charges for services and federal grants. When approvals are delayed or requests are disapproved, institutional operations are disrupted. Further, rescissions in the past two years have seriously hampered fiscal planning efforts.

APPENDIX III-I

CONSTITUENT UNIT MISSION STATEMENTS

University of Connecticut: Legislation gives the university the "exclusive responsibility for programs leading to doctoral degrees and postbaccalaureate professional degrees" (Public Act 77-573, [Sec. 16]). A statement of mission was adopted by the board of trustees on December 12, 1975, which gave the university "responsibility for a unique combination of graduate education and research, professional training, and a statewide program of extension and continuing education services" (Statement of Mission, 1975). The statement adds that "the traditional triad of academic responsibilities--teaching, research and service--is fundamental to the mission of any university" (p. 2).

State Colleges: A "Mission of Connecticut State College System" was approved by the board of trustees on February 4, 1977, that gave the state colleges a special mission to provide undergraduate and graduate education on a regional basis. By legislation, state colleges are to provide teacher education programs to support the needs of the state (Public Act 77-573, [Sec. 16]). They have also responded to needs in the liberal arts and vocational fields. The mission statement identifies the basic programs as those leading to bachelor's degrees in education, technological studies, professional studies, business education and the liberal arts. State colleges also offer master's degrees in the liberal arts, education and certain professional and career fields, as well as six-year certificates in certain specialties. Each college is expected to maintain a strong liberal arts curriculum and to respond to the educational needs of its region at both the undergraduate and graduate level. However, the mission statement does not address the role and scope of individual institutions.

State Technical Colleges: The board of trustees adopted a mission statement on September 18, 1975, which states that "the primary mission of the state technical colleges is to prepare . . . men and women . . . for immediate employment as technicians in Connecticut industry and business. . . ." Their secondary mission is to provide job-related education for the employed, and to provide courses of study that will allow for transfer to four-year educational institutions. The mission statement defines the technical fields that fall within the scope of the state technical colleges to include engineering, manufacturing, construction, industrial management, data processing, communications graphics, science-related fields including specialized medical areas, management training and public service programs.

Regional Community Colleges: The board of trustees adopted a brief mission statement on May 17, 1976. It specified the primary functions of the community colleges as offering programs of occupational, vocational and technical career education; general study at the postsecondary level; programs of study transferable to four-year degree-granting colleges or universities; adult and continuing education; remedial and self-development courses; community service activities and programs; and support services for a variety of students, including the homebound, the elderly, the institutionalized and the disabled. The mission statement encourages the community colleges to develop technical curricula or individual courses of a technical nature where a technical college does not render this service.

(continued)

Appendix III-I (continued)

The Board for State Academic Awards: On August 5, 1976, the board adopted a mission statement that the board "seeks through programs of open learning to assist adults in mastery of the academic disciplines that lead to advancement in business, professional occupations, public administration and voluntary services" (p. 1). The board has statutory "responsibility for the award of external degrees and credits earned by examination and by other forms of validation and by evaluation of learning, including transfer of credit" (General Statutes Sec. 10-326).

APPENDIX III-J

FUNDING FORMULAS

Certain costs associated with running an institution (such as plant maintenance, general operation and a core of mission-related academic programs and student services) can be considered "fixed"--costs that should be fully funded regardless of enrollment. Funding formulas for fixed expenses are straightforward--how much will it cost to heat the buildings, repair the sidewalks, or pay the dean of students?

The largest portion of an institution's cost structure--classroom and laboratory teaching, academic support services (libraries, computers, etc.) and student services (counseling, placement, registration, etc.)--can be considered "variable"--costs that should vary with student demand. A well-constructed formula for funding variable cost items typically ties dollars allocated to enrollment levels.

Funding formulas vary from state to state. Some states (Tennessee, Florida and Minnesota, for example) have established a range within which enrollment fluctuations do not affect budgets. Other states (Wisconsin, Indiana and Ohio, for example) allocate funds based on a close examination of the change in actual costs affected by a change in enrollment--a "marginal" cost approach.

The following example shows how a variable cost funding formula might be constructed. The example illustrates the process by which funding for a particular discipline in a particular institution might be determined.

Example:

Consider the discipline of statistics at Example College. Student credit hours (SCH) and average costs per student credit hour for statistics are collected in the manner suggested by the Cost Management Index (appendix III-K). A five-year moving average of student credit hours in statistics is used as the enrollment base to minimize abrupt changes. In this simple example, assume that the cost per student credit hour for statistics will be $27.

1. Enrollment base (in SCH) in the current year	30,000
2. Enrollment base (in SCH) in the next year	31,000
3. Change in enrollment base (line 2 minus line 1)	1,000
4. Average cost per student credit hour (assumed above)	$27.00

(continued)

Appendix III-J (continued)

5.* Average variable cost per student credit hour (line 4 x .9)	$24.30
6. Change in funding for instruction (line 5 x line 3)	$24,300.00
7.* Change in funding for support services (line 6 x .2)	$ 4,860.00
8. Total change in funding for statistics (line 6 plus line 7)	$29,160.00

*Line 5 assumes that 10 percent of all instructional costs are fixed. Line 7 assumes that the cost of support services--counseling, registration, etc.--affected by enrollments in a given discipline are equal to 20 percent of the corresponding instructional costs. Both assumptions have some precedence in the literature, but require confirmation in the Connecticut system.

An additional $29,160 above this year's funding level would be allocated for the variable costs associated with statistics next year.

In this funding scheme, a five-year moving average of enrollments (expressed in student credit hours) is used, avoiding short-term fluctuations in funding. This budgetary process, therefore, allocates funds based on a more even flow of enrollments and average variable costs per credit by discipline. This operational budget process, used in conjunction with the Cost Management Index (appendix III-K), provides a continual review of enrollments, costs, and the relationship between the two.

APPENDIX III-K

INDICATORS OF ORGANIZATIONAL HEALTH AND ORGANIZATIONAL STRESS

Academic quality and financial strength are the foundations of any sound educational system and are key to any appraisal of institutional effectiveness. The criteria outlined below would provide useful indicators of the financial health of an institution of higher education, whether public or private. Criteria for appraising academic quality can also be derived once an institution has identified its goals in a statement of mission. Such criteria are also outlined below to suggest the types of quantifiable measurements that can help in assessments of institutional soundness.

A number of useful indicators of financial health have been developed and discussed in Ratio Analysis in Higher Education (New York: Peat, Marwick, Mitchell & Co., 1980). Among them are assessments of an institution's ability to meet current obligations without liquidating assets, which could be ascertained by examining discriminatory funds in relation to long-term debt. Another indicator of health would be the institution's borrowing power, which could be ascertained by examining long-term debt in relation to equity. To determine whether an institution is operating with a deficit or a surplus, total expenditures and total revenues would be compared. To ascertain whether the funds received for the central functions of the institution are sufficient, educational and general expenditures would be compared with educational and general revenues.

Another set of indicators of financial health would reveal the stability of sources of revenue relative to expenditures. Tuition and fees, federal and state revenues, and private gifts and endowments would be reviewed against total educational and general expenditures. To ascertain the functions to which an institution is directing its resources, the proportions of total educational and general expenditures for instruction, research, public service, student services, academic support, institutional support, and operating and maintenance would be examined.

Measurements of academic quality would depend on institutional missions and objectives. Quantitative measurements could include such items as high school grade rankings and SAT scores as indicators of the pool from which the institution's enrollment was being drawn; dropout rates; and assessments of the performance of graduates through Graduate Record Examination scores and surveys.

In addition to the need for assessing institutional health, there is a need to identify symptoms of institutional stress. Wisconsin, among other states, has implemented a system for identifying such symptoms. See Preparing for a Decade of Enrollment Decline, A Report from the Board of Regents of the University of Wisconsin to State Government and the People of Wisconsin (Board of Regents of the University of Wisconsin System, 1979). Other states' efforts are described in The Regents Guidelines for Commissioners' Procedures in Addressing Cases of Higher Educational Institutions Experiencing Financial Distress (New York State Board of Regents, 1977); Ratio Analysis in Higher Education (New York: Peat, Marwick, Mitchell & Co., 1980); and Assessing Financial Distress in Colleges and Universities (The National Center for Higher Education Management Systems, 1979).

(continued)

Appendix III-K (continued)

The Commission examined several stress criteria that might be adapted to Connecticut's situation. These are outlined below:

Enrollment and Capacity Utilization. Stress indicator: Capacity utilization of less than 60 percent in the current year or an enrollment decline greater than 5 percent; in the planning period, future planned capacity utilization of less than 60 percent or a projected enrollment decline greater than 12 percent. Capacity utilization equals the full-time equivalent (FTE) enrollment of an institution divided by FTE capacity. Future capacity utilization equals the current year capacity utilization multiplied by the expected change in enrollments (see appendix III-B for explanation of how capacity utilization is derived).

Tenure. Stress indicator: The percentage of instructional staff in departments with a high level of tenured faculty exceeds a predetermined level. Tenure concentration indicates the degree of flexibility at an institution, both financially--in the management of its fixed and variable costs--and academically--in its ability to respond to needs for new knowledge as well as to demands for more places in certain disciplines (see appendix III-C for discussion of tenure).

Cost Management Index (CMI). Stress indicator: Costs per credit for a program at a given institution exceed a predetermined percentage of average program costs at other institutions, weighted for full- and part-time students, differing program requirements and instructional levels. The Cost Management Index is essentially a measure of cost efficiency. Actual student credit hours of instruction provided by each institution are weighted by a set of calculations, producing a number--"weighted" student credit hours--that reflects the costs of providing instruction to students at different educational levels and in different disciplines. The CMI is derived by dividing the dollars budgeted by the number of weighted student credit hours in each of four budget categories (direct costs of instruction, academic support services, student services, and general operations and services). Then the four components are added together producing one index number for each institution, which permits a comparison of costs for similar programs at schools of the same constituent groups. The CMI does not indicate the actual cost per credit hour or whether costs are too high or too low, but it will show that the costs at one school are a certain percentage higher or lower than at another school for comparable programs.

Academic Profile. Stress indicator: The academic profile of entering classes falls below the "floor" established for that institution (see discussion of academic standards in chapter V). The profile would include mean SAT scores, high school grade-point averages and other criteria. Results of exit exams might be used as an indicator for the community colleges.

Student/Faculty Ratio. Stress indicator: Student/faculty ratios vary by more than a given percentage from historic ratios. Student/faculty ratios suggest relative movements in enrollments and filled faculty positions.

Attrition Rate. Stress indicator: The attrition rate of students at an institution exceeds the historical rate by more than a given percentage. This is one measure of an institution's ability to serve a full range of student needs, including counseling and other support services. It is not, however, an appropriate measure for the community colleges.

APPENDIX IV-A

SELECTED CORPORATE EDUCATION PROGRAMS

	Aetna	American Can Company	Amer. Inst. of Banking	Combustion Engineering	Conn. General	Electric Boat	GTE Co.	The Hartford Ins. Group	Pfizer	Pratt and Whitney	Southern New England Telephone	Travelers Insurance
1. GED/Job Competencies	Short-lived program recently dropped	No GED training sponsored		No GED training sponsored	No GED on-site but pays fees	Sponsors GED training	No GED training sponsored	Program for unemployed Hartford residents	No GED training sponsored	GED & ABE & ESL w/Literacy Volunteers of Conn. & state ABE instructors	No GED training sponsored	Formerly offered GED; now pays for GED training outside company
2. (Summer) High School prog.				None	None	None	Beginning work with Youth Employment Center of Stamford	STAG Program	None	Advanced Career Training Prog. HS Jrs & Srs 4 hrs/week for HS credit to explore careers	None	None
3. Remediation of skills at entry level	Many remedial courses: ESL, Writing, Math, etc.		Writing, ESL, Basic Math, etc.	Speed Reading, Basic Writing	Many remedial courses: Typing, Writing etc.	No remedial courses on-site	Shorthand, Eff. Reading, Business Writing, Career Dev.	Remedial courses: Writing, Math, Secretarial Skills	Remedial courses on-site in chemical division	OJT, Basic Math, Eng., etc.	Basic skills, word processing, technical courses	Typing, Shorthand, Writing
4. Advancement training, e.g., tech., managerial	Generic courses in management, all levels	University and on-site programs	Supervisory training; bank management courses	Generic courses in management, all levels; sends mgrs. to Columbia, Harvard, the Hartford Grad School	Generic courses in management, all levels	Generic courses in management, all levels	Generic management courses on-site, employees sent to OIC	Sends mgrs. to Columbia U., Wharton, Michigan; also generic mgmt. courses on-site	Generic courses in management, all levels	Mgmt., Eu. & foreman course-presupervisory to supervisory	Generic courses in management, all levels	Exec. development supervisory training, managerial training
5. Liberal arts for managers	Planned with Aetna Institute	University-sponsored programs				Art History and Music History courses, open to New London community as well						
6. Cooperative ventures - Univ./Corp.	Sponsors co-op. degree programs and single courses in data processing with Manchester Community CC, Post College		Encourages students to attend local colleges for generic courses and degrees		Sponsors AA & BA degree progs. with U. of Hartford	Sponsors three degree programs (AA,BA,MBA) in Shipyard Mgmt. with U. of N. Haven, on-site program		Co-op venture with proprietary school for typing	One course per semester, depending on need and interest in cooperation with local colleges	Manchester CC AS degree for graduates of P&W apprenticeship prog.; 30 credits for app. program and 10 more courses also w/Middlesex CC, South Central CC, Tunxis CC 300 grads so far; 50% soon for BAs at Central Conn. State College & Eastern Conn.	Sponsors accelerated AA degree with Post College, on-site program	U. of Hartford on-site programs electives on campus
7. Co-op prog.	Arrangement with MCC & Post College; ESL w/St. Joseph's College	Co-op and summer intern program with colleges and universities countrywide		None		None	Beginning prog. with local high school students; summer college interns	Continuation of STAG Program	None	Co-op with HS Srs. 20 hrs/week $4.25/hr/clerical	None	None
8. Tuition reimbursement	100%	100%		100% up to 7 credits per semester	100%	100% pending receipt of approp. grade	100%	100%	100%	75% P&W 75% students for college on-site programs	100%	100%
9. Miscellaneous		Sponsors inter-disciplinary lunch-time lecture series for all employees.		Pays fees for CLEP			Sponsored College Fair for employees at lunch-time-invited local college reps.					

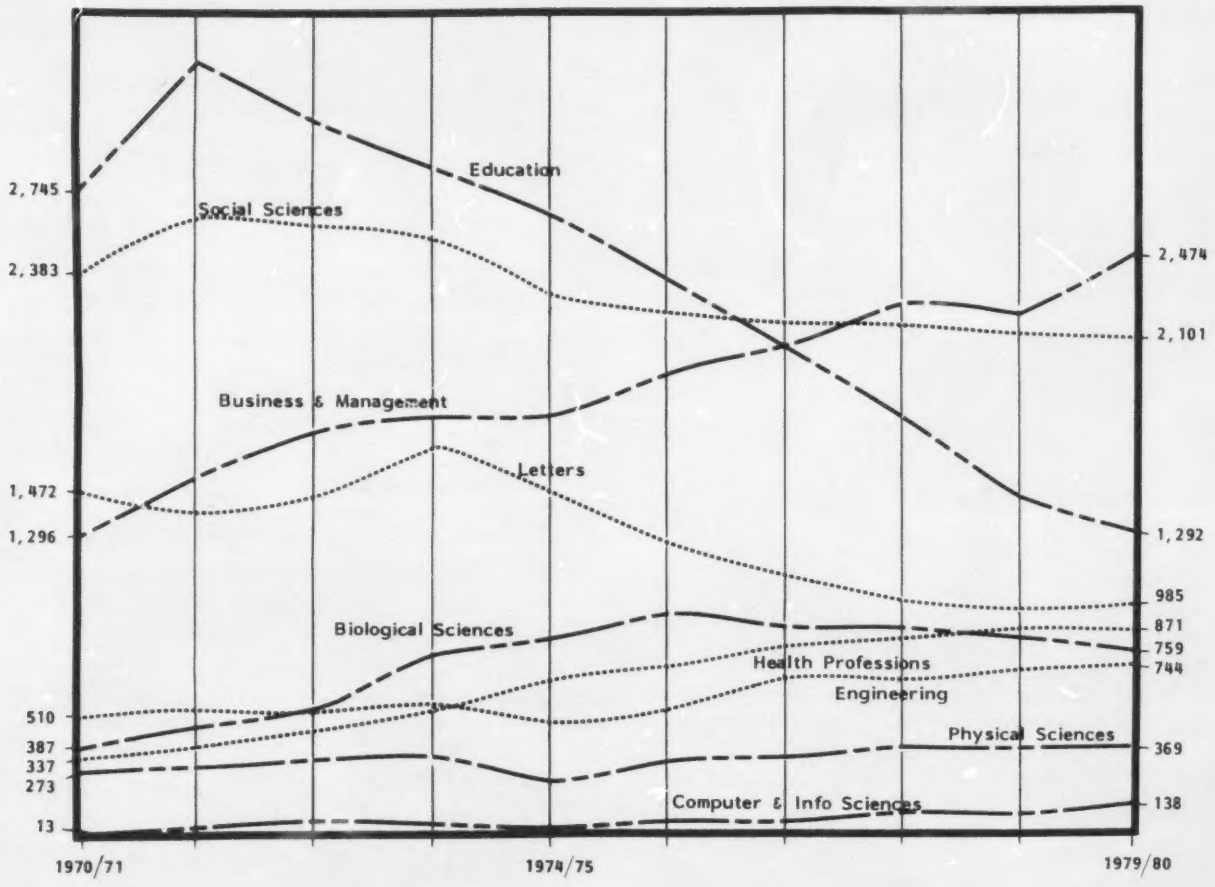
AA	Associate of Arts	GED	General Equivalency Degree
ABE	Adult Basic Education	GTE	General Telephone & Electronics Corporation
AS	Associate in Science	HS	High School
BA	Bachelor of Arts	MBA	Master of Business Administration
CC	Community College	MIT	Massachusetts Institute of Technology
CLEP	College Level Examination Program	OJT	On-the-job training
ESL	English as a Second Language	P&W	Pratt and Whitney
FTE	Full-time Equivalent	PEP	Proficiency Examination Program
		STAG	Skills Training Adjustment Group

Source: Commission Survey.

APPENDIX IV-B

BACHELOR'S DEGREES CONFERRED BY CONNECTICUT INSTITUTIONS OF HIGHER EDUCATION IN SELECTED DISCIPLINES

JULY 1, 1970 TO JUNE 30, 1980



Source: "Degrees Conferred by Connecticut Institutions of Higher Education 1970-71 to 1979-80," BHE Reports, R-5-81 (Hartford: Board of Higher Education, October 1981), figure 4, p. 9.

APPENDIX IV-C

CAPPED AND LIMITED-ENROLLMENT DEGREE PROGRAMS WITH APPLICATIONS EXCEEDING ENROLLMENT CEILINGS, CONNECTICUT PUBLIC INSTITUTIONS, 1981/82

Programs	UConn[a]	State Colleges[b]		State Technical Colleges[b]				RCCs[c]
		Western	Southern	Htfd.	Norw.	Thames Valley	Wtby.	
Accounting								X
Architecture				X				
Business Admin.	X							X
Data Processing				X	X	X	X	X
Dental Aux. (Asst./Hygiene)								X
Drafting: Archit.						X		
Industrial						X		
Drug & Alcohol Rehab. Counselor								X
Early Childhood Education								X
Engineering:	X							
Chemical	X			X				
Civil	X			X		X		
Electrical	X			X	X	X	X	
Industrial	X					X		
Mechanical	X			X		X	X	
Hotel, Food Serv. Mgt.								X
Legal Assistant								X
Manufacturing				X		X	X	
Media Associate								X
Nursing		X	X					X
Physical Therapy	X							
Pretechnical				X	X	X	X	
Radiologic Technology (Diagnostic/Therapeutic/Nuclear Medicine)								X

[a] UConn offers four additional programs with enrollment ceilings that are not currently full: Clinical Dietetics, Medical Technology, Nursing, and Pharmacy.

[b] Central Connecticut and Eastern Connecticut State Colleges and Greater New Haven State Technical College have no programs with formally established ceilings.

[c] The regional community colleges have high-demand courses with enrollment ceilings: e.g., English as a Second Language, Remedial/Developmental Reading, Mathematics, and Composition.

Sources: Constituent units: L. Torrence, UConn; T. Porter, state colleges; G. Harris, state technical colleges; E. Stewart, regional community colleges.

APPENDIX IV-D

ROLE OF PRIVATE OCCUPATIONAL INSTITUTIONS

In 1980, Connecticut's nationally accredited postsecondary proprietary institutions, or private occupational schools, enrolled about the same number of students as the state's five technical colleges. Proprietary schools enrolled approximately 8,000 students, according to a poll conducted by the Accredited Private Occupational Schools of Connecticut (APOSC), noted by Bradley R. Buran, president, in a letter to the Commission of December 17, 1981.

Given the economic realities of the 1980s--declining public funds, increased costs of machinery and other capital equipment and shortages of skilled labor--private occupational schools are likely to remain an important asset among the state's postsecondary educational resources. They offer increased and alternative opportunities to students desiring education or training for entry-level positions in technical occupations; an additional source of trained labor for Connecticut's business and industry; savings to taxpayers in public revenues, which need not be expended to create similar public sector programs; and increased revenue to the state from taxes paid by proprietary schools.

There appears to be much suspicion of the reliability and ethical practices of proprietary schools. However, more stringent standards and regulations in recent years seem to be curtailing abuses as well as possibly decreasing the overall numbers of proprietary institutions (see Steven M. Jung, "Proprietary Vocational Education," National Center for Research in Vocational Education, Ohio State University, 1980). In Connecticut, Public Act 79-380, enacted in February 1980, substantially tightened the regulation and certification of private occupational schools through the State Board of Education. In addition, each proprietary school pays .5 percent of tuition revenue into a fund established through the joint sponsorship of the State Board of Education and APOSC to protect students in the event of the insolvency of a proprietary school.

Since 1980, private occupational schools have had a representative on the Board of Higher Education. Section 10-326 of the General Statutes allows for contracting by the public colleges with the independent colleges and the postsecondary proprietary schools. However, only $25,000 has been earmarked for this purpose during the current fiscal year and, to date, there have been no instances of contracting with a proprietary school.

APPENDIX IV-E

CLAUSES ON FACULTY REASSIGNMENT AND TERMINATION IN COLLECTIVE BARGAINING AGREEMENTS

The University of Connecticut's collective bargaining agreement provides for discontinuance of faculty for reasons "consonant with the long-range educational mission of the University or financial exigency" and states that in selecting those nontenured or tenured faculty members to be terminated "primary consideration shall be given to the University's responsibility to offer an appropriate range of courses and programs." Collective Bargaining Agreement Between The University of Connecticut Board of Trustees and The University of Connecticut Chapter of the American Association of University Professors, July 1, 1979-June 30, 1981. Article 14, Reduction of Staff for Discontinuance of Programs and Financial Exigency, pp. 19-21.

The collective bargaining agreement for the state colleges allows faculty retrenchment for "a bona fide financial exigency." It specifies that in all considerations of involuntary separation of faculty members due regard must be given "to offer adequately staffed courses and programs in areas of student demand and societal need." Collective Bargaining Agreement Between Connecticut State College American Association of University Professors and the Board of Trustees for the Connecticut State Colleges, in the Interests of the Citizenry of Connecticut, 1979-1981. Article 17, Retrenchment, pp. 51-53.

The collective bargaining agreement for the regional community colleges defines termination of employment or reassignment as "a decision by the employer to terminate or reassign [a faculty member] for economic or programmatic reasons." The employer is to be guided in the decision of which individuals to terminate or reassign "by the needs of the college, the quality of performance of professional responsibilities . . . bona fide occupational qualifications or bona fide affirmative action." Collective Bargaining Agreement Between the Board of Trustees of Regional Community Colleges and the Congress of Connecticut Community Colleges, July 1, 1979-June 30, 1982. Article XIII, Termination or Reassignment for Special Reasons, pp. 30-33.

The collective bargaining agreement for the state technical colleges requires that "layoffs . . . be based upon both the academic needs of the system and seniority." Collective Bargaining Agreement Between the Board of Trustees for Connecticut State Technical Colleges and the Federation of Technical College Teachers, American Federation of Teachers, Local 1942, A.F.L.-C.I.O., 1979-1982. Article 22, Layoffs, pp. 59-64.

APPENDIX IV-F

COMPOSITION OF BOARDS OF TRUSTEES AND ADVISORY COUNCILS, CONNECTICUT INSTITUTIONS OF HIGHER EDUCATION, 1981/82

	Business Labor Industry	Educators	Students	Others[a]	Total
BOARDS OF TRUSTEES					
Independent Institutions					
Albertus Magnus	15	--	--	7	22
Bridgeport Engineering Inst.	16	--	--	2	18
Connecticut College	17	--	--	11	28
Fairfield U.	23	--	--	8	31
Hartford College for Women	16	--	--	19	35
Hartford Graduate Center	24	--	--	1	25
Mitchell College	30	--	--	6	36
Post College	10	--	--	9	19
Quinnipiac College	24	--	--	8	32
Sacred Heart U.	15	--	--	8	23
St. Joseph's College	24	--	--	7	31
Trinity College	NA	NA	NA	NA	NA
U. Hartford	37	--	--	5	42
Wesleyan U.	21	--	--	8	29
Yale U.	16	--	--	3	19
Public Institutions					
UConn	5	2	2	10	19
State Colleges	5	5	2	4	16
State Technical Colleges	7	--	2	7	16
Community Colleges	7	2	2	4	15
State Academic Awards	4	--	--	1	5
ADVISORY COUNCILS					
State Colleges					
Central: Business School	14	--	--	--	14
Industrial Tech. Program	12	--	--	--	12
Eastern: General	9	2	--	15	26
Southern: Bus/Ec. Dept.	8	6	--	4	18
Journalism	7	--	--	--	7
Western: Corporate College Council	10	--	--	--	10
Business School	9	1	--	--	10

(continued)

Appendix IV-F (continued)

	Business Labor Industry	Educators	Students	Others[a]	Total
State Technical Colleges					
Statewide Advisory Council	6	--	--	--	6
Hartford State Technical College	7	2	--	--	9
Greater New Haven Technical College	23	2	--	5	30
Norwalk State Technical College	11	4	--	3	18
Thames Valley State Technical College	18	3	--	1	22
Waterbury State Technical College	10	2	--	2	14
University of Connecticut					
Labor Center Committee	14	3	--	--	17
Inst. Materials Science Advisory Board	19	2	--	--	21
School of Business	26	--	--	--	26
Dept. of Chemical Eng.	10	1	--	3	14
Center for Economic Education Advisory Committee	4	15	--	1	20
Real Estate & Urban Economic Studies	3	4	--	2	9
Agriculture-related organizations advising College of Agric. and Natural Resources	NA	NA	NA	NA	NA
ADVISORY COUNCILS/COMMITTEES					
Regional Community Colleges					
Asnuntuck	6	6	1	11	24
Greater Hartford	6	2	--	2	10
Housatonic	8	7	--	10	25
Manchester	7	6	--	11	24
Mattatuck	9	5	--	8	22
Middlesex	12	5	--	8	25
Mohegan	5	1	--	7	13
Northwestern	9	2	--	8	19
Norwalk	7	2	--	2	11
Quinebaug Valley	8	7	--	5	20
South Central	10	3	--	4	17
Tunxis	6	1	--	1	8
	93	47	1	77	218

(continued)

Appendix IV-F (continued)

	Business Labor Industry	Educators	Students	Others[a]	Total
Program Evaluation Teams					
1977/78	35	29	9	40	113
1978/79	36	16	9	59	120
1979/80	26	9	7	27	69
Program Advisory Committees (representative)					
Middlesex: Business	6	--	--	--	6
Cable TV	4	4	--	1	9
Information Sys.	5	1	--	--	6
Environmental Sc.	2	1	--	2	5
Executive Sec.	4	1	--	1	6
Legal Secretary	1	--	--	4	5
Medical Secretary	1	1	--	3	5
Human Services	--	8	--	8	16
Radiologic Tech.	--	2	--	3	5
	23	18	--	22	63
South Central:					
Business	6	3	--	--	9
Data Process.	10	--	--	--	10
Dietetic Tech.	2	4	--	8	14
Early Child. Ed.	2	1	--	6	9
Human Services	--	3	--	12	15
Radiological Tech.	--	--	2	17	19
Secretarial Sc.	7	1	--	--	8
	27	12	2	43	84
Housatonic: Labor Studies	3	2	--	--	5
Tunxis: Applied Arts	3	5	--	--	8
Business	6	2	--	1	9
Community Serv.	8	3	--	2	13
Criminal Justice	3	1	--	6	10
Dental Tech.	--	4	--	7	11
Health Services Ed.	2	3	--	6	11
	22	18	--	22	62

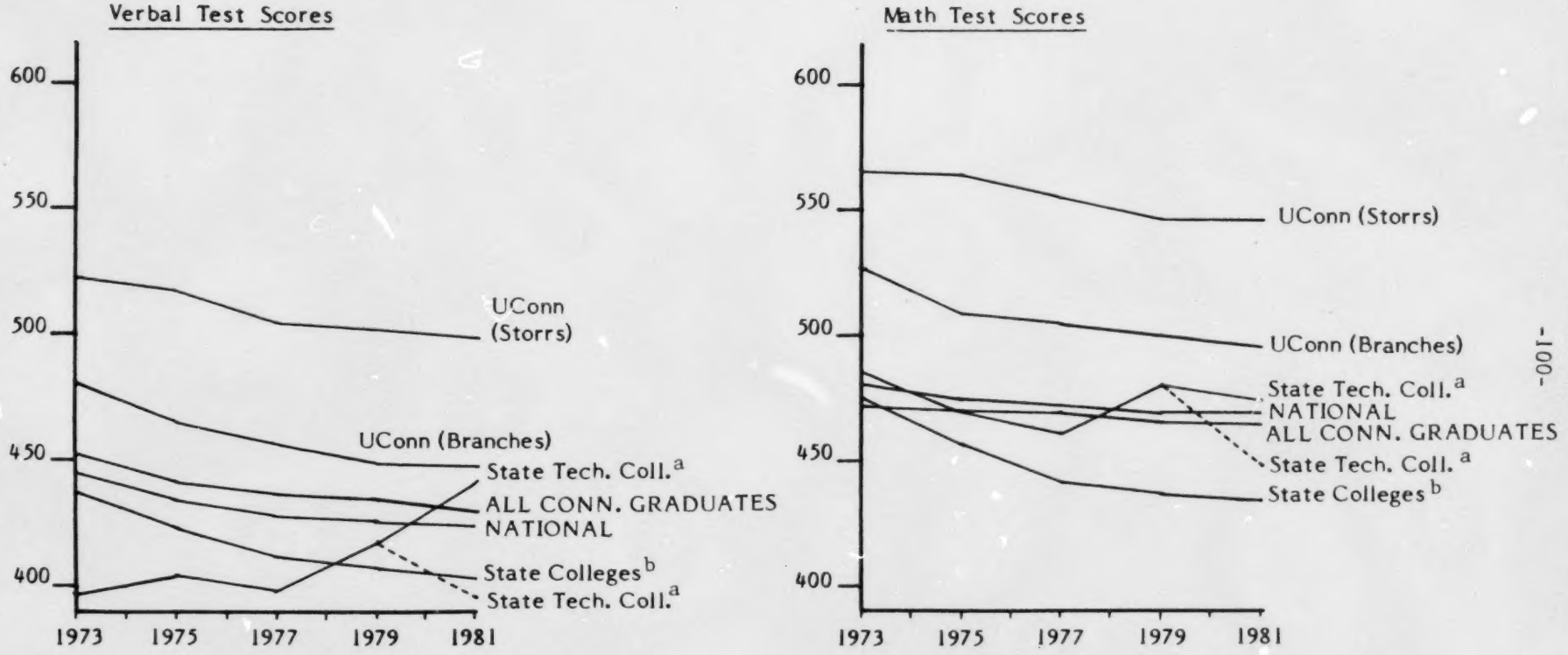
[a] Professionals, civic leaders, representatives of social service and government agencies, private citizens.

NA Not ascertained.

Sources: Information on independent institutions provided by Connecticut Conference of Independent Colleges: Margaret Tedone, acting president. Information provided by each constituent unit: L. Torrence, UConn.; T. Porter, state colleges; G. Harris, technical colleges; E. Stewart, regional community colleges.

APPENDIX V-A

AVERAGE SCHOLASTIC APTITUDE TEST SCORES, CONNECTICUT PUBLIC AND NATIONAL INSTITUTIONS, 1973-1981



[a]State technical college trend is based on three colleges; dotted line indicates trend when data for a fourth college are added beginning in 1979.

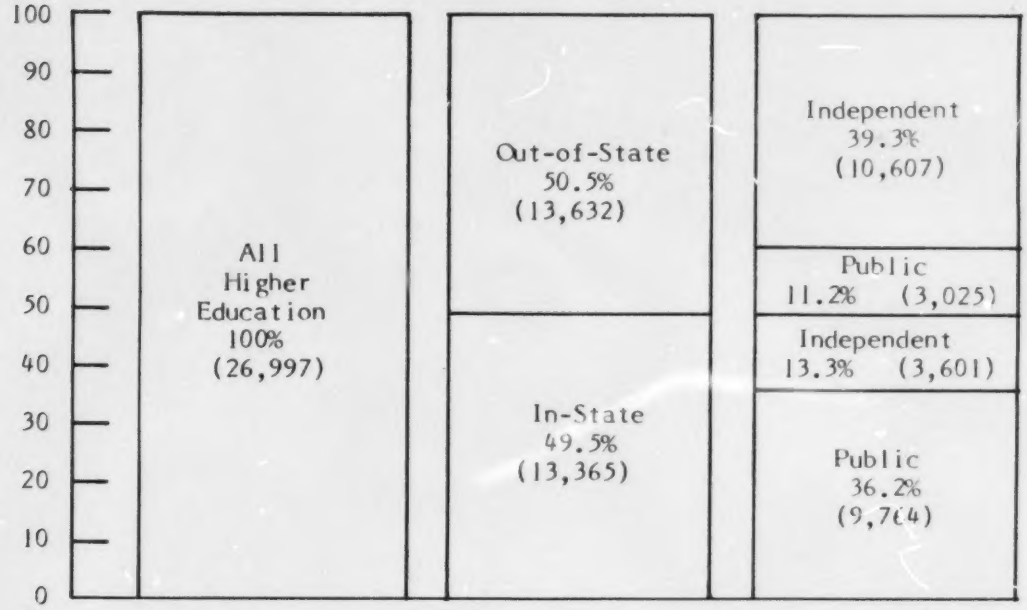
[b]State college data are based on data for two colleges in 1973, three colleges in 1975 and 1977, and four colleges in 1979 and 1981.

Sources: Commission survey and Admissions Testing Program Reports (Princeton, N.J.: Educational Testing Service, 1981) for national and Connecticut scores.

APPENDIX V-B

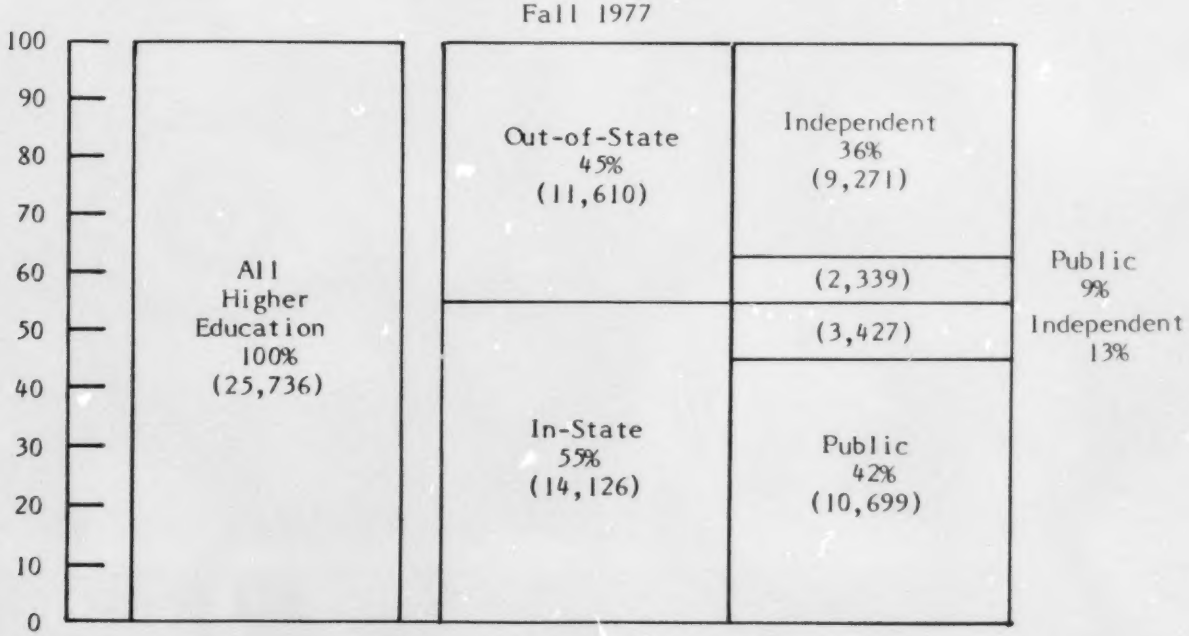
DISTRIBUTION OF
CONNECTICUT HIGH SCHOOL GRADUATES
CONTINUING INTO HIGHER EDUCATION, 1977 and 1980

Fall 1980



Source: Prepared by Jennifer Presley, director of research, Board of Higher Education, based on data from "High School Graduate Follow-up Report," State Board of Education, July 1981.

Fall 1977



Source: Anticipating the 1980s: Report and Recommendations to the General Assembly on Higher Education in Connecticut (Hartford: Board of Higher Education, 1979) Appendix, table E-2.

APPENDIX V-C
APPROPRIATIONS FOR HIGHER EDUCATION, BY STATE

	1981/82 Appropriations[a]		Appropriations per capita[b]		Approp. per $1,000 of personal income[c]		Two-yr. change[d]		Ten-yr. change[e]		Two-yr. change less inflation[f]		Ten-yr. change less inflation[g]	
	Amount	Rank	Amount	Rank	Amount	Rank	Percent	Rank	Percent	Rank	Percent	Rank	Percent	Rank
Alabama	$ 417,757,000	18	$107.39	22	$14.31	10	+11%	44	+291%	6	-12%	44	+ 75%	6
Alaska	122,439	39	305.73	1	23.84	1	+69%	1	+528%	1	+35%	1	+181%	1
Arizona	306,801,000	27	112.88	19	12.81	14	+32%	11	+215%	22	+ 5%	11	+ 41%	22
Arkansas	183,980,000	35	80.50	40	11.05	28	+ 8%	46	+253%	14	-13%	46	+ 58%	14
California	3,328,706,000	1	140.64	5	12.82	13	+18%	27	+290%	7	- 6%	27	+ 75%	7
Colorado	305,791,000	28	105.85	24	10.53	30	+24%	18	+170%	34	- 1%	18	+ 21%	34
CONNECTICUT	259,971,000	31	83.66	37	7.12	46	+15%	34	+133%	45	- 8%	34	+ 4%	45
Delaware	72,125,000	45	121.17	10	11.69	25	+35%	9	+212%	25	+ 8%	9	+ 40%	25
Florida	802,316,000	7	82.37	39	9.05	38	+23%	19	+224%	20	- 2%	19	+ 45%	20
Georgia	498,919,000	13	91.31	33	11.28	27	+30%	13	+206%	26	+ 3%	13	+ 37%	26
Hawaii	154,755,000	38	160.37	4	15.83	8	+30%	12	+159%	36	+ 4%	12	+ 16%	36
Idaho	95,100,000	41	100.75	27	12.47	20	+12%	41	+178%	30	-11%	41	+ 25%	30
Illinois	996,810,000	4	87.30	36	8.28	41	+13%	38	+110%	50	-10%	38	- 6%	50
Indiana	482,494,000	15	87.88	35	9.81	34	+17%	28	+140%	40	- 6%	28	+ 7%	40
Iowa	341,938,000	25	117.37	16	12.51	19	+13%	37	+185%	27	-10%	37	+ 28%	27
Kansas	278,662,000	30	117.92	15	11.78	23	+17%	29	+231%	16	- 7%	30	+ 48%	16
Kentucky	355,291,000	23	97.04	29	12.72	16	+18%	26	+227%	18	- 5%	26	+ 46%	18
Louisiana	454,754,000	17	108.17	20	12.76	15	+38%	7	+225%	19	+10%	7	+ 45%	19
Maine	66,871,000	46	59.46	49	7.48	44	+17%	30	+118%	48	- 7%	29	- 3%	48
Maryland	385,949,000	19	91.53	32	8.73	39	+19%	24	+172%	33	- 5%	24	+ 22%	33
Mass. (est.)	364,500,000	20	63.53	47	6.26	48	+16%	32	+180%	29	- 8%	32	+ 25%	29
Michigan	848,532,000	5	91.65	31	9.19	37	+ 5%	48	+124%	47	-16%	48	0%	47
Minn. (est.)	515,000,000	12	126.31	8	12.96	12	+12%	42	+213%	23	-11%	42	+ 40%	24
Mississippi	300,524,000	29	119.23	13	18.08	3	+29%	14	+257%	11	+ 3%	14	+ 60%	11
Missouri	352,770,000	24	71.74	43	7.97	42	+12%	40	+137%	43	-11%	40	+ 6%	43
Montana	83,693,000	43	106.39	23	12.43	21	+38%	6	+173%	32	+10%	6	+ 22%	32
Nebraska	187,190,000	34	119.23	12	12.70	17	+24%	17	+261%	10	- 1%	17	+ 61%	10
Nevada	65,851,000	47	82.40	38	7.66	43	+16%	33	+253%	13	- 8%	33	+ 58%	13
New Hampshire	39,323,000	49	42.71	50	4.67	50	+32%	10	+217%	21	+ 5%	10	+ 42%	21
New Jersey	464,787,000	16	63.11	48	5.76	49	+16%	31	+152%	37	- 7%	31	+ 13%	37
New Mexico	171,576,000	37	131.98	7	16.79	4	+36%	8	+279%	8	+ 9%	8	+ 70%	8
New York	1,855,429,000	3	105.68	25	10.27	32	+20%	22	+131%	46	- 4%	22	+ 3%	46
North Carolina	736,882,000	8	125.44	9	16.00	6	+27%	15	+230%	17	+ 1%	15	+ 48%	17
North Dakota	108,538,000	40	166.29	3	18.97	2	+43%	4	+202%	5	+14%	4	+ 80%	5
Ohio (est.)	698,350,000	9	64.68	46	6.82	47	+ 4%	50	+144%	39	-17%	50	+ 9%	39
Oklahoma	325,553,000	26	107.61	21	11.78	24	+42%	5	+310%	4	+14%	5	+ 84%	4
Oregon	252,602,000	32	95.95	30	10.27	31	+10%	45	+145%	38	-12%	45	+ 10%	38
Pennsylvania	825,491,000	6	69.56	44	7.36	45	+12%	43	+138%	42	-11%	43	+ 6%	42
Rhode Island	85,257,000	42	90.01	34	9.50	36	+19%	25	+180%	28	- 5%	25	+ 25%	28
South Carolina	361,171,000	21	115.79	17	15.89	7	+13%	36	+263%	9	-10%	36	+ 62%	9
South Dakota	52,143,000	48	75.55	42	9.64	35	+ 5%	49	+139%	41	-17%	49	+ 7%	41
Tennessee	357,016,000	22	77.77	41	10.05	33	+12%	39	+213%	24	-10%	39	+ 40%	23
Texas	1,905,008,000	2	133.89	6	13.99	11	+45%	3	+355%	2	+16%	3	+104%	2
Utah	174,139,000	36	119.19	14	15.54	9	+20%	23	+245%	15	- 4%	23	+ 55%	15
Vermont	33,876,000	50	66.23	45	8.44	40	+25%	16	+114%	49	0%	16	- 4%	49
Virginia	543,961,000	10	101.75	26	10.81	29	+22%	20	+255%	12	- 2%	20	+ 59%	12
Washington	497,821,000	14	120.53	11	11.66	26	+ 6%	47	+161%	35	-15%	47	+ 17%	35
West Virginia	192,092,000	33	98.53	28	12.60	18	+21%	21	+177%	31	- 3%	21	+ 24%	31
Wisconsin	531,953,000	11	113.05	18	12.06	22	+14%	35	+135%	44	- 9%	35	+ 5%	44
Wyoming	82,644,000	44	175.53	2	16.04	5	+60%	2	+351%	3	+28%	2	+102%	3
Total	$22,925,101,000		$101.50		$10.64		+20%		+197%		- 4%		+33%	

[a] Reported by M. M. Chambers of Illinois State University as state tax funds appropriated for operating expenses and scholarship programs for higher education. Amount of appropriation may be reduced later in some states because of shortfall in revenues. Not included are appropriations for capital outlay or sums from sources other than state taxes, such as student fees. Included are appropriations for annual operating expenses even if appropriated to some other agency of the state for ultimate allocation to institutions of higher education. Preallocated state taxes whose proceeds are dedicated to any institution of higher education are included even though periodic appropriation by the legislature may be bypassed. Also included are state tax funds appropriated for sholarships and statewide governing or coordinating boards.

[b] State appropriations divided by the U.S. Census Bureau's final population count for 1980.

[c] State appropriations divided by personal income, in thousands of dollars, reported by U.S. Commerce Dept. for 1980.

[d] Increase in appropriations for 1981/82 over 1979/80, as reported by M. M. Chambers.

[e] Increase in appropriations for 1981/82 over 1971/72, as reported by M. M. Chambers.

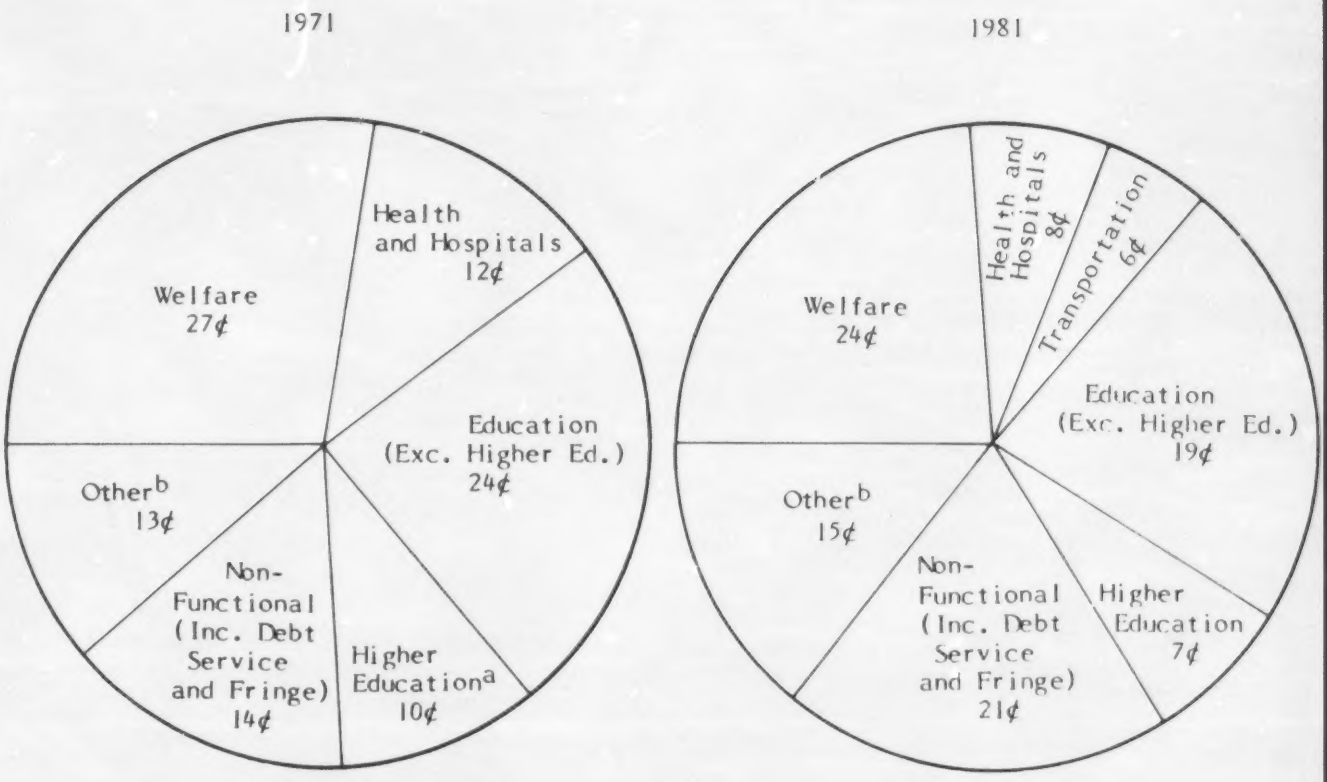
[f] Two-year increase in appropriations adjusted for inflation of 25.3 percent, as indicated by Labor Department's Consumer Price Index for June 1981, compared with June 1979.

[g] Ten-year increase in appropriations adjusted for inflation of 123.4 percent as indicated by the Labor Department's Consumer Price Index for June 1981, compared with June 1971.

Source: "Analysis of State Funds for Higher Education," Chronicle of Higher Education, October 21, 1981, p.13.

APPENDIX V-D

DISTRIBUTION OF GENERAL FUND DOLLAR,
FISCAL YEAR 1971 AND FISCAL YEAR 1981



[a] The higher education share of state dollar expended has declined from 10¢ to 7¢ (30 percent), which is roughly proportional to declines experienced by other functions of state government. The nonfunctional category, which is made up primarily of debt service, retirement contributions, employer social security taxes and health service costs, has experienced the largest increase in the 10-year period.

[b] The other functions category includes the legislature, general government agencies, regulation and protection agencies, conservation and development agencies, corrections agencies and the judicial department.

Source: Board of Higher Education, based on information from the state comptroller for the fiscal years ended June 30, 1971, and June 30, 1981.

APPENDIX V-E

AVERAGE FACULTY SALARIES,
CONNECTICUT INSTITUTIONS OF HIGHER EDUCATION, 1980/81

University Level[a]	Professor	Associate Professor	Assistant Professor	Instructor
University of Connecticut	$36,100[b]	$25,600	$20,400	$17,500
Yale University	40,300	24,300	19,200	17,500
AAUP Average for Institutions at University Level[c]	33,160	24,900	20,080	16,050
College Level				
Central Connecticut State College	28,900	23,300	20,100	17,100
Connecticut College	26,800	20,700	17,500	16,100
Eastern Connecticut State College	29,700	23,500	19,600	
Fairfield University	27,900	24,200	20,000	
Hartford Graduate Center	25,300	-	-	
Hartford Seminary Foundation	23,300			
Quinnipiac College	27,700	23,000	18,700	15,800
Southern Connecticut State College	29,700	23,600	20,500	17,500
Trinity College	31,300	22,400	18,200	
University of Bridgeport	29,900	22,100	18,400	14,600
University of Hartford	28,900	22,900	18,800	15,800
University of New Haven	27,500	24,200	20,100	
Wesleyan University	34,500	24,100	18,700	
Western Connecticut State College	27,900	22,600	19,000	15,700
AAUP Average for Institutions at College Level	27,610	22,720	18,930	15,440
Bachelor's Degree Level				
Albertus Magnus College	-	17,700	15,500	-
Norwalk State Technical College	-	24,700	21,700	-
Post College	-	20,200	15,800	-
Sacred Heart University	26,200	20,700	16,100	-
St. Joseph College	22,600	18,800	16,800	15,000
AAUP Average for Institutions at Bachelor's Degree Level	23,860	19,540	16,470	14,360

(continued)

Appendix V-E (continued)

Two-Year College Level	Professor	Associate Professor	Assistant Professor	Instructor
Greater Hartford CC	25,400	22,300	18,900	-
Greater New Haven Tech. C			-	17,600
Hartford State Technical C	27,600	23,600	20,500	
Housatonic Regional CC	24,400	21,400	19,900	-
Manchester CC	24,800	22,000	19,300	-
Mattatuck CC	-	21,500	19,500	15,000
Middlesex CC	26,100	22,100	19,100	-
Mohegan CC	-	21,200	18,500	
Northwestern Conn. CC	-	22,100	20,000	-
Norwalk CC	27,300	22,300	19,300	
South Central CC	-	20,600	18,400	14,700
Thames Valley State Tech. C	27,900	22,900	20,100	
Tunxis CC	-	20,400	18,200	14,600
Waterbury State Tech. C	26,700	23,800	20,500	-
AAUP Average for Institutions at Two-Year College Level	25,350	21,470	18,220	15,350

Institutions Without Academic Ranks	
Asnuntuck CC	17,300
Mitchell College	16,700
AAUP Average for Institutions Without Ranks	19,090

[a] University-level institutions offer the doctorate and in the most recent three years conferred an annual average of 15 or more earned doctorates in at least three nonrelated disciplines. Institutions categorized as college level award degrees above the bachelor's degree but do not qualify as university-level institutions. Institutions categorized as bachelor's-degree level award only the bachelor's degree or its equivalent.

[b] The figures for individual institutions show average salaries, not including fringe benefits, for full-time faculty members, adjusted to a nine-month basis. A dash indicates that the statistical sample is too small to be significant; a blank space indicates that the institution has no faculty members at that rank.

[c] The American Association of University Professors (AAUP) uses a five-point rating scale based on actual distributions of average salary by number of institutions in 1980/81. Percentile rankings are as follows: 1 +--95th percentile; 1--80th percentile; 2--60th percentile; 3--40th percentile; 4--20th percentile. The figures used above as the average for institutions in the same category are those in the 60th percentile.

Source: "Average Faculty Salaries at 2,500 Institutions," The Chronicle of Higher Education, June 22, 1981, p. 5.

APPENDIX V-F

TUITION AND REQUIRED FEES
AT SELECTED INSTITUTIONS IN THE NORTHEAST, 1981/82

	In-State Undergraduates		Out-of-State Undergraduates	
Major State Universities	Average Cost	Rank Order	Average Cost	Rank Order
University of Vermont	$2,081	1	$5,268	1
Penn. State University	1,805	2	3,643	4
University of New Hampshire	1,444	3	4,000	2
University of Rhode Island	1,350	4	3,874	3
State University of New York	1,233	5	NA	-
Rutgers University, N.J.	1,178	6	2,353	9
University of Maryland	1,144	7	NA	-
University of Massachusetts	1,122	8	3,621	5
UNIVERSITY OF CONNECTICUT	1,101	9	2,441	8
University of Delaware	1,096	10	2,603	7
University of Maine	1,087	11	3,370	6
Four-Year State Colleges				
Vermont State Colleges	$1,407	1	$3,270	2
Pennsylvania State Colleges	1,230	2	2,324	6
State University of New York (SUNY) State Colleges	1,134	3	NA	-
Maryland State Colleges	1,111	4	NA	-
New Hampshire State Colleges	984	5	3,011	3
New Jersey State Colleges	928	6	1,785	7
Maine State Colleges	885	7	3,373	1
Rhode Island College	864	8	2,848	4
Massachusetts State Colleges	854	9	2,733	5
CONNECTICUT STATE COLLEGES	832	10	1,772	8
Delaware State College	570	11	1,698	9
Two-Year Community and Technical Colleges				
State University of New York (SUNY)				
o Agric. and Technical Colleges	$1,186	1	NA	-
o Community Colleges	942	2	NA	-
Penn. Community Colleges	830	3	$2,726	1
Vermont Community Colleges	810	4	1,168	7
Massachusetts Community Colleges	619	5	1,984	2
New Hamp. Voc.-Tech. Colleges	608	6	1,608	4
New Jersey Community Colleges	572	7	1,925	3
Maryland Community Colleges	560	8	NA	-
Delaware Tech. & Comm. Colleges	519	9	1,144	8
Rhode Island Junior College	470	10	a	-
CONNECTICUT				
o TECHNICAL COLLEGES	453	11	1,398	5
o REGIONAL COMMUNITY COLLEGES	404	12	1,244	6

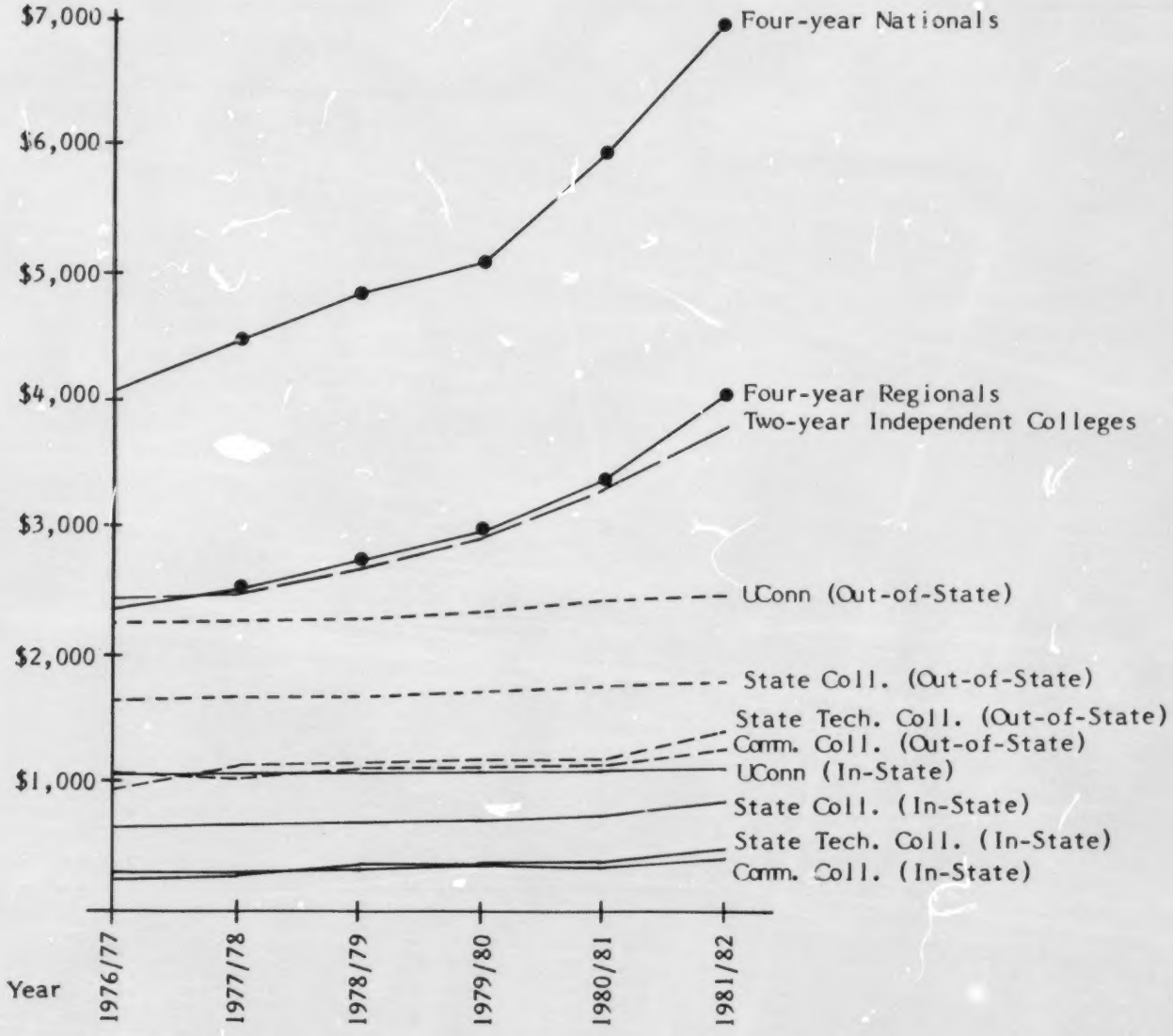
[a] Does not accept out-of-state students. NA Not Ascertained.

Note: Average costs of tuition and required basic fees are shown. Room and board charges or special fees, etc., are not included.

Source: Board of Higher Education telephone survey, May 1981. Data for selected states were updated in September and December 1981.

APPENDIX V-G

COMPARISON OF AVERAGE ANNUAL TUITION AND REQUIRED FEES
AT PUBLIC AND INDEPENDENT INSTITUTIONS IN CONNECTICUT
1976/77-1981/82



Source: Based on data provided by the Board of Higher Education, Office of Research.

APPENDIX V-H

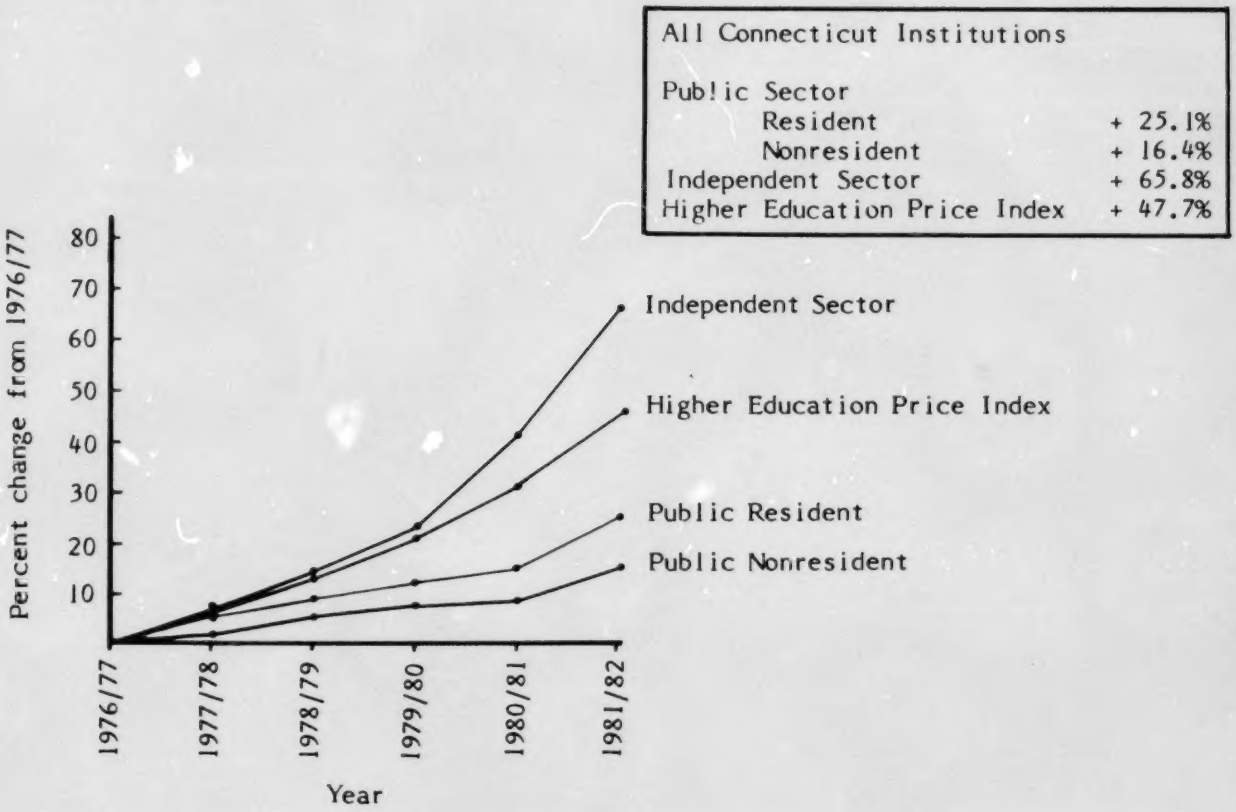
TUITIONS, REVENUES AND GENERAL FUND COST PER STUDENT AT CONNECTICUT PUBLIC INSTITUTIONS
FY 1982

	UConn	State Colleges	Community Colleges	Technical Colleges
Adjusted Appropriation[a]	$ 80,995,660[c]	$ 52,449,101	$ 33,539,145	$ 9,998,956
Fringe Benefits[b]	19,980,826	14,360,200	8,140,400	2,563,128
Debt Service[b]	5,756,290	7,883,630	3,019,370	1,455,130
TOTAL GENERAL FUND	106,732,776	74,692,931	44,698,915	14,017,214
Tuition Revenue[c]	(8,600,000)	(8,056,355)	(4,824,680)	(1,169,129)
Net General Fund	98,132,776	66,636,576	39,874,235	12,848,085
FTE Enrollment	17,801	17,780	15,670	3,481
Total General Fund per FTE	5,996	4,201	2,853	4,027
Net General Fund per FTE	5,513	3,748	2,545	3,691
Adjusted Appropriation per FTE	4,550	2,950	2,140	2,872
Tuition[d]	540	440	300	381
Tuition as percentage of Total General Fund Cost per FTE	9.0%	10.5%	10.5%	9.5%

[a] Adjusted appropriation is the original General Fund appropriation or expenditure plus transfers, etc. as appropriate.
[b] Amounts for fringe benefits and debt service are estimated.
[c] The tuition fund has been included in the Adjusted Appropriation to maintain FY 1982 to maintain comparison with previous years.
[d] In-state students.
Source: "Higher Education Operating Budget Request FY 1983" (Hartford: Board of Education, September 22, 1981), p. 19.

APPENDIX V-I

PERCENTAGE INCREASE IN ANNUAL UNDERGRADUATE TUITION AND FEES AT PUBLIC AND INDEPENDENT INSTITUTIONS IN CONNECTICUT, AND HIGHER EDUCATION PRICE INDEX 1976/77-1981/82



Source: Board of Higher Education, Research Office, and "Higher Education Prices and Price Indexes: 1981 Update" (Research Associates of Washington, D.C.: September, 1981).

APPENDIX V-J

PER-CAPITA NEED-BASED STUDENT AID EXPENDITURES
SHOWN FOR ALL STATES, 1979/80

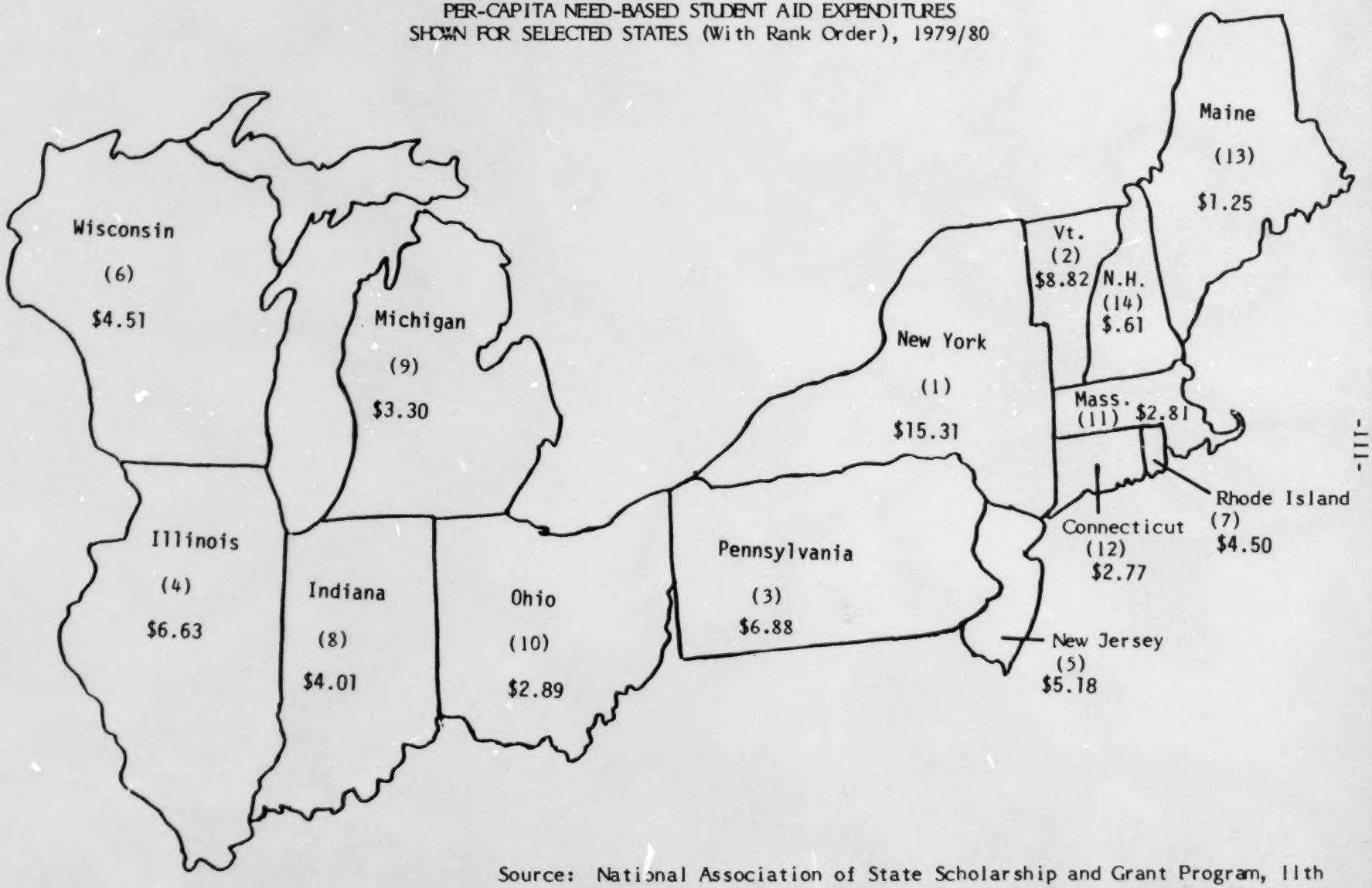
	State	Per-Capita Expenditures		State	Per-Capita Expenditures
1.	New York	$15.31	27.	Washington	$ 1.30
2.	Vermont	8.82	28.	Maine	1.25
3.	Pennsylvania	6.88	29.	Florida	1.23
4.	Illinois	6.63	30.	Utah	1.18
5.	Minnesota	5.94	31.	Delaware	.95
6.	Iowa	5.30	32.	Oklahoma	.80
7.	New Jersey	5.15	33.	Arizona	.78
8.	Wisconsin	4.51	34.	Nevada	.77
9.	Rhode Island	4.50	35.	Virginia	.74
10.	Indiana	4.01	36.	Alabama	.67
11.	California	3.82	37.	Georgia	.67
12.	South Carolina	3.69	38.	North Dakota	.64
13.	Michigan	3.30	39.	Wyoming	.62
14.	Colorado	3.07	40.	New Hampshire	.61
15.	Ohio	2.89	41.	South Dakota	.61
16.	Massachusetts	2.81	42.	New Mexico	.60
17.	CONNECTICUT	2.77	43.	North Carolina	.60
18.	Oregon	2.39	44.	Alaska	.58
19.	Kansas	2.00	45.	Idaho	.58
20.	Missouri	1.87	46.	Nebraska	.55
21.	West Virginia	1.63	47.	Montana	.54
22.	District of Columbia	1.57	48.	Arkansas	.51
23.	Kentucky	1.53	49.	Hawaii	.51
24.	Tennessee	1.44	50.	Mississippi	.46
25.	Texas	1.44	51.	Louisiana	.22
26.	Maryland	1.34		All States	3.94

Note: Index based on 1977 state populations. Expenditures for undergraduate need-based scholarship/grant programs.

Source: National Association of State Scholarship and Grant Programs, 11th Annual Survey, 1979/80 Academic Year (p. 16). Joseph D. Boyd, executive director, Illinois State Scholarship Commission.

APPENDIX V-K

PER-CAPITA NEED-BASED STUDENT AID EXPENDITURES
SHOWN FOR SELECTED STATES (With Rank Order), 1979/80



Source: National Association of State Scholarship and Grant Program, 11th Annual Survey, 1979-80 Academic Year. Joseph D. Boyd, executive director, Illinois State Scholarship Committee.

APPPENDIX V-L

PROJECTIONS OF TUITIONS AND COSTS, 1981/82,
USING HIGHER EDUCATION PRICE INDEX (HEPI)

Constituent/Student Unit Residency	Tuition Projected	Tuition Actual	Total Per Student Annual Cost Projected	Total Per Student Annual Cost Actual	Difference Between Tuition Projected and Actual	
UConn						
In-State	$ 797	$ 540	$1,358	$1,101	$257	48%
Out-of-State	1,816	1,230	3,027	2,441	586	48%
State College:						
In-State	576	440	977	841	136	31%
Out-of-State	1,520	1,030	2,271	1,781	490	48%
Regional Community College:						
In-State	369	300	473	404	69	23%
Out-of-State	1,402	1,140	1,506	1,244	262	23%
State Technical College:						
In-State	450	381	522	453	69	18%
Out-of-State	1,565	1,326	1,637	1,398	239	18%

Source: Data on 1976/77 and 1981/82 tuition and fees provided by Board of Higher Education. The projected effects on tuition and fees of Higher Education Price Index adjustments provided by Research Associates of Washington, September 1981.

APPENDIX V-M

FEE INCREASES IN CONNECTICUT PUBLIC HIGHER EDUCATION INSTITUTIONS, 1976/77-1981/82

Constituent/Student Unit	Residency	Average Fees 1976/77	Average Fees 1981/82	Change $	Change %
UConn:					
	In-State	$ 455	$ 561	$ 106	23
	Out-of-State	1,005	1,211	206	20
State Colleges:					
	In-State	283	401	118	42
	Out-of-State	633	751	118	19
Regional Community Colleges:					
	In-State	65	104	39	60
	Out-of-State	65	104	39	60
State Technical Colleges:					
	In-State	46	72	26	57
	Out-of-State	46	72	26	57

Note: Fees are averages for each type of institution and type of student.

Source: Board of Higher Education.

APPENDIX V-N

DEGREES CONFERRED, BY LEVEL OF DEGREE, FOR MINORITY, WHITE AND NONRESIDENT ALIEN STUDENTS, CONNECTICUT INSTITUTIONS OF HIGHER EDUCATION, 1979

Level of Degree		Minority	White	Nonresident Alien	Total
First Professional:					
Number of Degrees Awarded		62	646	12	720
Percent of Awards in Degree Category		8.6%	89.7%	1.7%	
Percent of Degrees in Ethnic Category		4.6%	2.6%	2.9%	2.7%
Doctoral:					
Number of Degrees Awarded		26	426	60	512
Percent of Awards in Degree Category		5.0%	83.2%	11.7%	
Percent of Degrees in Ethnic Category		1.9%	1.7%	14.3%	1.9%
Master's:					
Number of Degrees Awarded		213	5,777	211	6,201
Percent of Awards in Degree Category		3.4%	93.2%	3.4%	
Percent of Degrees in Ethnic Category		15.7%	23.6%	50.4%	21.9%
Bachelor's:					
Number of Degrees Awarded		597	12,297	103	12,997
Percent of Awards in Degree Category		4.6%	94.6%	0.8%	
Percent of Degrees in Ethnic Category		44.6%	50.2%	24.6%	49.5%
Associate's:					
Number of Degrees Awarded		443	5,022	31	5,496
Percent of Awards in Degree Category		8.1%	91.4%	0.6%	
Percent of Degrees in Ethnic Category		32.6%	20.5%	7.4%	20.9%
Awards below Associate's:					
Number of Degrees Awarded		16	290	2	308
Percent of Awards in Degree Category		5.2%	94.2%	0.6%	
Percent of Degrees in Ethnic Category		1.2%	1.2%	.5%	1.8%
Total	Number	1,357	24,458	419	26,234
	Percent	5.2%	93.2%	1.6%	100%

Source: "Minority Enrollment in Connecticut Institutions of Higher Education," BHE Reports R-2-81 (Hartford: Board of Education, May 1981), table 5, p. 9.

APPENDIX V-O

DISTRIBUTION OF DEGREES CONFERRED, BY DISCIPLINE, AS A PERCENTAGE OF TOTAL DEGREES FOR MINORITY AND NONMINORITY STUDENTS, CONNECTICUT INSTITUTIONS OF HIGHER EDUCATION, 1978/79

Discipline	Bachelor's		Master's		Doctoral	
	Minority	Non-Minority	Minority	Non-Minority	Minority	Non-Minority
	%	%	%	%	%	%
Agriculture	0.7	2.1	0.5	1.1	0	2.5
Architecture	1.0	0.2	0	0.7	0	0
Biological Sciences	8.7	6.3	2.8	2.3	19.2	11.5
Business & Management	13.6	17.2	10.8	16.2	0	1.4
Education	7.0	11.0	30.5	43.8	7.7	12.1
Engineering	3.4	5.5	1.4	2.6	0	3.3
Health Professions	2.3	7.0	6.6	3.8	0	2.3
Mathematics	1.3	1.5	0.9	0.6	0	2.9
Physical Sciences	1.3	2.8	2.3	1.3	3.8	9.9
Psychology	9.7	6.3	1.4	2.9	3.8	6.0
Public Affairs	7.4	3.2	12.7	3.5	0	0
Social Sciences	21.1	16.1	6.6	3.9	0	18.3
All Others	22.4	20.7	23.5	17.3	65.5	29.8
Total	100.0 (597)	100.0 (12,400)	100.0 (213)	100.0 (5,988)	100.0 (26)	100.0 (486)

Discipline	Associate Degrees	
	Minority	Non-Minority
	%	%
Arts & Sciences	35.0	29.3
Data Processing & Technologies	3.6	4.5
Health Services & Paramedical Technologies	8.1	14.9
Mechanical & Engineering Technologies	7.4	10.7
Natural Science Technologies	1.6	0.6
Business & Commerce Technologies	27.8	28.3
Public Service Related Technologies	16.5	11.6
Total	100.0 (443)	100.0 (5,053)

Source: "Minority Enrollment in Connecticut Institutions of Higher Education," BHE Reports R-2-81 (Hartford: Board of Higher Education, May 1981), table 6, p. 10.

NOTES

NOTES

CHAPTER I--INTRODUCTION

1. According to Jennifer Presley, director of research, Board of Higher Education, based on data from "High School Graduate Follow-up Report" State Board of Education, July 1981. See also appendix V-B.

2. Doreen Frankel, Willie Hagan and Gary Cooley, "Student Migration: Patterns and Trends of Connecticut Students" (Hartford: Board of Higher Education, revised March 1979), p. 1. See also The Prospectus for the Commission on Higher Education and the Economy of New England (Wenham, Mass.: New England Board of Higher Education, December 16, 1980), pp. 14, 15.

3. "Higher Education in Connecticut: A Status Report," BHE Reports (Hartford: Board of Higher Education, January 1981), pp. 2-3.

4. Based on data from "High School Graduate Follow-up Report." See also appendix V-B.

5. Doreen Frankel, Willie Hagan and Gary Cooley, "Student Migration: Patterns and Trends of Connecticut Students," p. 6.

6. The University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, p. 2.

7. John DiBiaggio, president, University of Connecticut, in testimony before the Commission, October 13, 1981 (from transcript of recorded remarks, p. 14).

8. Ibid.

9. F. Don James, president, Central Connecticut State College, in testimony before the Commission, October 9, 1981 (from transcript of recorded remarks, p. 7).

10. Ibid.

11. Lawrence Davidson, chairman of the board of trustees for Connecticut state colleges, in testimony before the Commission, October 9, 1981 (from transcript of recorded remarks, p. 4).

Chapter I--Introduction (continued)

12. Strengthening Higher Education in Connecticut, the Connecticut General Assembly, Legislative Program Review and Investigations Committee, April 1977, p. 36.

13. Anticipating the 1980s: Report and Recommendations to the General Assembly on Higher Education in Connecticut (Hartford: Board of Higher Education, September 1, 1979), p. 15.

14. "Enrollment in Connecticut Higher Education," BHE Reports (Hartford: Board of Higher Education, February 1981), p. 8.

15. Edward B. Fiske, "After the Federal Cutbacks, A New Era in Paying for College," New York Times, section 12, November 15, 1981.

16. John Gardner, Excellence (New York: Harper & Row, 1971).

CHAPTER II--COMMISSION PROCEDURES

1. "Remarks Prepared for Delivery By Governor O'Neill to Initial Meeting with Blue Ribbon Commission on Higher Education and the Economy," August 6, 1981.

CHAPTER III--GOVERNANCE AND MANAGEMENT

1. "Enrollment in Connecticut Higher Education," BHE Reports (Hartford: Board of Higher Education, February 1981), p. 8.

2. It is generally anticipated that enrollments of persons 25 and over will continue to increase. The reasons for this expectation are summarized in Three Thousand Futures: The Next Twenty Years for Higher Education, Final Report of the Carnegie Council on Policy Studies in Higher Education (San Francisco: Jossey-Bass, Inc., 1980):

> Their enrollments have been increasing over the past decade. They are likely to increase considerably more because there will be bulges in the size of the older age groups, and because more of these older persons already have attended college and such persons have a much higher historic participation rate in additional college attendance than the population as a whole. . . .We note that participation rates for adults with prior college attendance may

> rise to even higher levels than past practice might indicate (this applies to the graduate level as well) because of the great competition of many to get ahead within the bulge of young adults, because of the desire of some to change jobs in the face of this competition, and because of the impulse of a few to escape the competition by attention to nonvocational interests. (p. 37)

3. See "Demographic Changes and Their Impact on Higher Education Enrollment in Connecticut," BHE Reports (Hartford: Board of Higher Education, September 1981).

4. The Commission arrived at this conclusion after an examination of board votes on key capital funding projects and private discussions with board members and staff.

5. The Commission identified an institution as "tenure-bound" if 80 percent or more of its full-time faculty was tenured. In Three Thousand Futures, the Carnegie Council on Policy Studies in Higher Education, notes that: "Tenure ratios, which were 50 percent as recently as 1969, have now risen to 75 percent; and colleges encounter new rigidities in redeploying their resources" (p. 82). Similarly, an earlier study chaired by William R. Keast, Faculty Tenure (San Francisco: Jossey-Bass, Inc., 1973), reported: "If institutions continue to award tenure to 60 to 80 percent, or more, of eligible faculty, and if faculty size does not grow proportionately, many will find themselves, within a few years, with tenure staffs so large that promotion for younger faculty will be increasingly difficult" (p. 7).

6. The University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, p.4.

7. "The Report of the Governor's Commission on Services and Expenditures State of Connecticut 1971," Etherington Commission, October 1971, pp. 90-110; Better Organization for Better Government, Report of the Committee on the Structure of State Government, Filer Committee, December 1976, pp. 32-35; Strengthening Higher Education in Connecticut, Connecticut General Assembly, Legislative Program Review and Investigations Committee, April 1977, pp. 6-10; Anticipating the 1980s: Report and Recommendations to the General Assembly on Higher Education in Connecticut (Hartford: Board of Higher Education, September 1979), pp. 2-4, 15.

Chapter III--Governance and Management (continued)

8. Numerous proposals for restructuring the higher education system in Connecticut were submitted to this Commission. Among them were the following:

- Merging the state technical colleges with the University of Connecticut and merging the community colleges with the state colleges. (An ad hoc committee of the state technical college faculty, submitted November 9, 1981). A similar proposal was submitted on October 18, 1981 by John Healey, assistant professor, University of Connecticut, Waterbury branch, and John Vaitkas, professor, Waterbury State Technical College.

- Merging of the state technical colleges and the community colleges into comprehensive community colleges; transferring of State Board for Academic Awards functions to the state college central offices; combining Stamford branch of University of Connecticut with Western Connecticut State College and adding a graduate center; closing three other University of Connecticut branches; and eliminating the BHE. (Margaret S. Wilson, Democratic state central committeewoman representing the 19th Senatorial District, submitted October 21, 1981.)

- Creation of a 14-year system of public education in which all public two-year institutions become part of the public school system, all public four-year institutions are combined into a University of the State of Connecticut, and the BHE is abolished. (Homer Babbidge, president, Hartford Graduate Center, submitted in a meeting with the committee on governance and management of the Commission, October 1, 1981.)

- The creation of two subunits under a central policy-making body: A University of the State of Connecticut for four-year and advanced degree programs; and a two-year comprehensive system combining the community colleges, the state technical colleges and the University of Connecticut branches. (Samuel Gould, former acting commissioner of the Commission for Higher Education, submitted in a meeting with the committee on governance and management of the Commission on October 9, 1981. Also presented in Anticipating the 1980s, appendix A, p. 9).

9. For information on higher education systems in other states, see State Postsecondary Education Profiles Handbook, 1980 edition, Education Commission of the States, National Center for Higher Education Management Systems, State Higher Education Executive Officers Association, Report No. 88 (Denver: November 1980).

10. Ibid.

11. In its report, Higher Education in Connecticut, 1964, the Study Commission on Higher Education, a citizens' task force assisted by the U.S. Department of Health, Education, and Welfare, recommended a single statewide system governed by a Commission for Higher Education having full powers of organization, with separate boards of trustees for each public institution. The legislature adopted a variation on this recommendation when it established a coordinating rather than a governing commission and created the three constituent units instead of boards of trustees for each college.

12. The Commission attempted to analyze the duties and powers of the Board of Higher Education with regard to the facilities and programs of the constituent units, and the development of acceptable academic standards. The relevant enabling legislation can be characterized as ambiguous. For example, provisions of Public Act 77-573, Chapter 178, Connecticut General Statutes, indicate the following: Section 10-323e(a) requires the board to "establish statewide policy" for the higher education system, to "review and approve" plans of the constituent units for development and utilization of higher education resources, and to "develop criteria to ensure acceptable quality in programs and institutions and shall enforce standards through licensing and accreditation" (Pars. 3,4). Yet, the board can offer only "recommendations" to the governor and General Assembly to "merge, close or otherwise alter existing programs" (Par. 2), and appears to be enjoined from reviewing the policies of constituent units concerning "academic standards for course and degree work" (Par. 5).

Similarly, Section 10-323e(c) vests in the governor and General Assembly the authority to approve the master plan for public higher education required to be produced by the board biennially, addressing such matters as "program distribution and the need for program revision, including termination of unproductive, obsolete or unnecessarily duplicative programs" (Par. 6). See also Public Act 81-442 Sec. 1 par. C, "An Act Concerning Extension Funds and Auxiliary Services Funds at the Higher Education Constituent Units," which requires the board to report periodically to the joint standing committee on appropriations its "recommendations concerning the equitable and cost effective distribution and use of" the described funds held by each facility in each constituent unit.

13. Of the 22 members of the Board of Higher Education, 12 are public members, each serving a six-year term; six are appointed by the governor, two by the president pro tempore of the Senate, two by the speaker of the House of Representatives, and one each by the House and Senate minority leaders.

Chapter III--Governance and Management (continued)

Five public constituent unit representatives, each serving two-year terms, are selected one each by the University of Connecticut, the state colleges, the state technical colleges, the regional community colleges, and the State Board for Academic Awards. Two other constituent representatives are selected one each by the Connecticut Conference of Independent Colleges, and the Accredited Private Occupational Schools of Connecticut. Two students are elected, one from a four-year public institution for a two-year term, and one from a two-year public institution, for a one-year term. The Commissioner of Education serves ex officio, without a vote. Chapter 178, C.G.S.A., Section 10-212a.

14. The Commission studied voting patterns on 17 issues at 12 separate meetings of the Board of Higher Education between April 1978, and April 1981, as recorded in the board minutes. Issues included capital budget requests, operating budgets, approval of new academic programs and reorganization.

15. For example, the Connecticut state colleges, in written testimony submitted to the Commission, October 9, 1981, stated: "One serious impediment to the change of state college curricula has been the requirement to win permission of the Board of Higher Education for new degree programs. Obtaining such permission has become a struggle in which competing educational interests try to line up votes on the Board of Higher Education. The outcome of this struggle may have little to do with the needs of students or the economy" (p. 1).

16. The regional community college board of trustees, in written testimony submitted to the Commission, October 1, 1981, p. 21.

17. Title 10, Section 10-326c provides for a board of governors for higher education centers. To avoid confusion with the proposed Board of Governors for the Department of Higher Education, the board of governors for higher education centers could be renamed the executive committee for higher education centers.

18. Many states are developing increasingly refined cost-accounting systems to obtain a more realistic picture of actual cost and spending patterns in their higher education institutions. California, Florida, Indiana, Michigan, New Jersey, Tennessee, Texas and Wisconsin are among states whose cost-based budgeting procedures are highly regarded. Most of these states have incorporated formulas in their budgetary procedures. As one national authority commented, "Budget formulas and cost analysis go hand in hand. Cost analysis measures the current cost of various units of existing programs; formulas extrapolate these cost relationships (with necessary quality and price adjustments) so that, given the expected levels of operation, the costs of future programs can be estimated" (D. Kent Halstead, Statewide Planning in Higher Education [Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1974], p. 661).

Chapter III--Governance and Management (continued)

19. No long-range plan for higher education has been prepared since 1974, when the Commission for Higher Education issued its Master Plan for Higher Education in Connecticut, 1974-1979: Quality and Equality (Connecticut Commission for Higher Education, January 1974).

20. Studies addressing problems in Connecticut's budgetary procedures include: A Plan for More Effective Financial Management, Final Report of the Gengras Commission (Hartford: May 1977); Strengthening Higher Education in Connecticut, Legislative Program Review and Investigations Committee (Hartford: April 1977), pp. 6-7; and Anticipating the 1980s (Hartford: Board of Higher Education, 1979), pp. 102-104. A number of national studies have also pointed out that line-item budgeting is incompatible with effective budgetary decision-making and control: see, for example, D. Kent Halstead, Statewide Planning in Higher Education, p. 651.

21. In a position paper, October 15, 1981, Herbert W. Hansen, president, Greater Hartford Chamber of Commerce, stated: "The Board has little control over budget allocations/operating revenues, even after the legislature has approved annual budgets. Although the Board does assist in developing budget documents, it is powerless to execute the reallocation of budgeted funds. Also, the administrator of each institution has little real control over his operation, with bureaucratic review processes and fixed staff sizes and faculty positions precluding the University, state colleges, or the technical and community colleges from effectively shifting physical resources and/or course offerings to meet current needs. If we assign responsibility to our administrators, we should give them the commensurate authority. How can we otherwise evaluate this performance; how can they effectively utilize the resources assigned to them?" (p. 1).

22. F. Don James, president, Central Connecticut State College, in testimony before the Commission, October 9, 1981, discussed the problem of pre-audit controls in the State of Connecticut: "The fact is that our budget is allocated by the legislature and yet we must seek permission through various state agencies to spend any bit of that budget. It's a considerable problem, a considerable expense to the state colleges, as to all of public higher education . . . the pre-audit system, in the State of Connecticut presents many problems, great inefficiency and very candidly, I think, a waste of the taxpayer's money. . . . it does not allow us really to utilize the resources we have to the fullest of our ability" (from transcript of recorded remarks, pp. 19, 21). Similar comments were made by John DiBiaggio, president, University of Connecticut, in testimony on October 13, 1981 (see transcript of recorded remarks, pp. 17, 20) and Fred A. Wilzel, Jr., chairman, executive committee of the University Senate (see written statement submitted to the Commission on October 13, 1981).

23. The regional community college board of trustees, in written testimony submitted to the Commission, October 1, 1981, p.21.

Chapter III--Governance and Management (continued)

24. University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, p. 12.

25. See John Dozier, et al., A Planning Manual for Colleges (Washington, D.C.: National Association of College and University Business Officers, 1980), and Information Exchange Procedures, Activity Structure, Technical Report 63 (Boulder, Colorado: National Center for Higher Education Management Systems at WICHE) for approaches to institutional planning. For statewide system planning see Robert O. Berdahl, Statewide Coordination of Higher Education (Washington, D.C.: American Council on Education, 1981); D. Kent Halstead, Statewide Planning in Higher Education; and John D. Millett, ed., Planning in Higher Education (Washington, D.C.: Academy for Educational Development, Inc., July 1977).

26. Resource Allocation and Management Program, Fiscal Year 1983, RAMP Manual/Public Universities (State of Illinois Board of Higher Education, June 1981); Use of Budget Guidelines Among the States, Postsecondary Education Research Reports, (Annapolis, Maryland: State Board for Higher Education, June 1981); Preparing for a Decade of Enrollment Decline, A Report from the Board of Regents of the University of Wisconsin System to State Government and the People of Wisconsin (Madison, Wisconsin: November 30, 1979).

27. Public Act 77-573, which established the Board of Higher Education, does provide general goals for the state system of higher education (Section 10-323e [b]): "Within the limits of authorized expenditures, the policies of the state system of higher education shall be consistent with the following goals: (1) To ensure that no qualified person be denied the opportunity for higher education on the basis of age, sex, ethnic background or social, physical or economic condition, (2) to protect academic freedom, (3) to provide opportunities for education and training related to the economic, cultural and educational development of the state, (4) to assure the fullest possible use of available resources in public and private institutions of higher education, (5) to maintain standards of quality ensuring a position of national leadership for state institutions of higher education, (6) to apply the resources of higher education to the problems of society, and (7) to foster flexibility in the policies and institutions of higher education to enable the system to respond to changes in the economy, society, technology and student interests. Said board shall review recent studies of the need for higher education services with special attention to those completed pursuant to legislative action, and to meet such needs shall initiate additional programs or services through one or more of the constituent units."

28. For example, the BHE's allocation priority list recommended new facilities totaling $34.6 million in the FY 1982/83 capital budget as compared with $52.6 million the year before. BHE recommendations on renovations, in

Chapter III--Governance and Management (continued)

contrast, totaled $14.8 million in FY 1982/83 compared with $6.0 million the prior year. Moreover, the BHE policies concerning capital investment priorities adopted in August 1979 call for, among other things: "1. Conserving and maintaining existing facilities intended for permanent use. 2. Improving the quality of existing campuses and programs through (a) staged substantial renovation and re-equipment of . . . academic and major support buildings . . .(b) substantial renovation of dormitories over ten years in age . . . (c) carefully planned improvements in walkways, open areas. . . ." Cited in Higher Education Five-Year Facilities Plan 1981-1986, Allocation Priority List FY 1981, Capital Budget Request FY 1982 (Board of Higher Education, September 30, 1980), p. 18. See also Higher Education Capital Budget Request FY 1982/83, Allocation Priority List FY 81-82, Five-Year Facilities Plan 1982-1987 (Board of Higher Education, September 29, 1981), pp. 33, 34.

29. According to Board of Higher Education, Resolutions Numbers 79-B32-S and 81-B7-HEC, one example is Western Connecticut State College's original proposal for 623,000 square feet (exclusive of dorms). The plan was approved for 230,000 square feet, a capital budget savings of about $37 million and annual operating costs savings of $700,000. Another example is the Central Naugatuck Valley Higher Education Center's (Phase 2) original proposal for 241,000 square feet. The plan was approved for 120,000 square feet, a capital budget savings of about $11.5 million and annual operating costs savings of $200,000.

30. Chapter 178, C.G.S.A., section 10-323c.

31. Wisconsin's mechanisms include a special planning process and six "thresholds of concern." When an institution crosses one or more of the thresholds, it signals the beginning of special planning. See Preparing for a Decade of Enrollment Decline, pp. 16-17.

CHAPTER IV--BUSINESS, LABOR AND EDUCATION

1. Information on Connecticut's economy and data cited in the succeeding three paragraphs appear in The Prospectus for the Commission on Higher Education and the Economy of New England (Wenham, Mass.: New England Board of Higher Education, December 16, 1980), pp. 7-8.

2. "Economic Profile of Connecticut," Hartford Insurance Group, General Research Department (1980), p. 2.

3. "Labor Force, Education and Training," Background Paper for Governor's Business-Labor Summit, prepared by Office of Policy and Management (1981), p. 1.

Chapter IV--Business, Labor and Education (continued)

4. Data in this paragraph appear in Lynn E. Browne, "A Quality Labor Supply," New England Economic Review, Federal Reserve Bank of Boston, July/August 1981, pp. 7-8.

5. Ibid.

6. Matthew L. Wald, "Suburban Update: Connecticut," New York Times special supplement on Careers, October 11, 1981, p. 36.

7. Ibid.

8. See "A Survey of the Manpower Training Needs of Connecticut Business and Industry with Special Emphasis on the Development of a Computer-Based Model for Vocational-Career Information Delivery Systems," prepared for the Connecticut State Board of Education, Division of Vocational Education, and the Connecticut Business and Industry Association (1975). A significant finding of this study was that employers felt that their employees, on the whole, manifested weaknesses in reading, writing and verbal and mathematics preparation. The study also observed that the employees' lack of motivation and interest in work is probably the greatest source of dissatisfaction to Connecticut employers (pp. 20-21).

9. Carnie Ives Lincoln, president of the American Society for Training and Development, in testimony before the Senate Subcommittee on Employment and Productivity, Hearings on Employment and Training Issues, June 15, 1981, p. 2.

10. Ibid.

11. "A Survey of the Manpower Training Needs."

12. Educating for Employment, Report of the Education Planning Committee, sponsored by the Board of Education, Board of Higher Education, and the Office of Policy and Management, State of Connecticut (1980), pp. 29-30. The effort was designed to improve and coordinate the existing occupational information systems to meet the needs of policymakers and planners at the State Department of Education, the Board of Higher Education, the Department of Labor and the agencies administering the Comprehensive Employment and Training Act.

13. According to the State Occupational Information Coordinating Committee (SOICC).

Chapter IV--Business, Labor and Education (continued)

14. Unfilled Jobs in The Midst of High Unemployment: The Findings and Recommendations of an Inquiry into Selected Connecticut Labor Market Problems (Hartford: Connecticut Business and Industry Association, 1977).

15. Governor Ella Grasso established the agency, the Division of Employment and Training, in January 1979. Headed by Under Secretary Richard Blackstone, the division coordinates education and training activities throughout the state.

16. Educating for Employment.

17. Education and Work: An Agenda for Action, Connecticut's Plan for Vocational Career and Adult Education (State Board of Education, January 1981). In August 1981, a companion report to the master plan, Education and Work: A Guide for the 80s, was published. Additional mechanisms to ensure coordinated planning include those in Public Act 81-83, An Act Concerning Job Training, and the activities of the Office of Policy and Management, Division of Employment and Training.

18. The Commission staff was told this in numerous interviews with business leaders throughout the state. The following articles also support this assertion: Sheila Tobias and Carol Weissbrod, "Anxiety and Mathematics: An Update," Harvard Educational Review, vol. 50, no. 1 (February 1980): 63-68; and Catherine Allen Carlson, "Foreign Languages: Can U.S. Foundations Help Bridge the Gap?" Foundation News, July/August 1980, pp. 8-14, ff.

19. "Connecticut State Colleges Answers to Governor's Commission on Higher Education Questions," October 9, 1981, p. 9.

20. Letter from A. Bartlett Giamatti, president of Yale University, to DeRoy C. Thomas, chairman, Governor's Blue Ribbon Commission on Higher Education and the Economy, October 14, 1981, pp. 1-2.

21. "An Act for Liberty to Erect a Collegiate School," October 9, 1701, from Franklin B. Dexter, ed., Documentary History of Yale University (New Haven: Yale University Press, 1916), pp. 20-23.

22. The data on bachelor's and master's degrees in this and the three succeeding paragraphs appear in "Degrees Conferred by Connecticut Institutions of Higher Education 1970-71 to 1979-80," BHE Reports R-5-81 (Board of Higher Education), October 1981, pp. 9-18.

Chapter IV--Business, Labor and Education (continued)

23. Herbert W. Hansen, president, Greater Hartford Chamber of Commerce, in testimony before the Commission, October 15, 1981 (from transcript of recorded remarks, p. 65).

24. William E. Vincent, president of Manchester Community College, in testimony before the Commission, October 1, 1981, p. 18.

25. W. Lewis Hyde, executive director, board of trustees, state technical colleges, in testimony before the Commission, September 24, 1981 (from transcript of recorded remarks, p. 20).

26. W. Lewis Hyde, pp. 5-6.

27. "Degrees Conferred, "p. 14.

28. According to the Board of Higher Education, in written testimony submitted to the Commission October 15, 1981: "The institutions and their boards of trustees have limited flexibility to move funding and resources between and among institutions and programs without review by external agencies. Recent budget rescissions and freezes on vacant positions have hampered the ability of units to make necessary and desired resource reallocations and to expand high-demand programs" (p. iii). Also, in testimony before the Commission, October 13, 1981, University of Connecticut President John DiBiaggio said: "We have come into the legislature with certain initiatives, certain new programs, which we thought were very responsive to societal needs. Each and every time, those have been deferred because budgets have not been provided, nor positions to accommodate those programs. . . . We just haven't the funds to expand them [capped programs]" (from transcript of recorded remarks, p. 37). Also, President F. Don James of Central Connecticut State College, in testimony before the Commission, October 9, 1981, remarked on budget limitations affecting the purchase of modern equipment for the School of Technology: "The school right now is dealing with equipment . . . from 20 to 40 years of age. If it was not for the contribution of some of the business and industrial firms in Connecticut, we would have very little equipment that is up to date to train these students. This is just one of many examples of the extreme budget limitations under which we have worked to try to meet the changing needs" (from transcript of recorded remarks, p. 8).

29. University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, p. 24.

Chapter IV--Business, Labor and Education (continued)

30. Each of the bargaining unit agreements details a procedure for terminating or redeploying faculty. The procedure includes faculty members, the chairpersons of the affected department, the bargaining unit, the academic dean and/or president of the institutions, and the board of trustees. In determining which individuals will be recommended to the president and/or board for termination, designated administrators or faculty groups must use peer screens of scholarship, teaching and service; part-time or full-time status; tenure status; age and length of service; and the affirmative action goals of the institution. There are specified standards of notice. For some units the employer must make efforts to provide early retirements, pro-rated reduced load, retraining, reassignment to another institution in the unit or another department, or special leave of absence before deciding to terminate an individual.

31. Early retirement and retraining of faculty for alternative careers are subjects currently being considered by a Subcommittee of the National Commission for Higher Education Issues of the American Council on Education.

32. These programs are described in the pamphlet Connecticut: Higher Education and the Business Community (Hartford: Board of Higher Education, June 1979).

33. Ibid., p. 3.

34. Stephen Feldman, president of Western Connecticut State College, in testimony before the Commission, October 9, 1981 (from transcript of recorded remarks, pp. 13-14). See also "The Connecticut State Colleges Today," Board of Trustees, Connecticut State Colleges, August 21, 1981, pp. 7-8.

35. Charles B. Gilbert, III, chairman of the board of trustees, state technical colleges, in testimony before the Commission, September 24, 1981 (from transcript of recorded remarks, p. 4). See also testimony of Edward Kearney, vice president, Federation of Technical College Teachers, p. 41; George Tatangelo, chairman of data processing, Waterbury State Technical College, p. 40; and Arthur Carlson, head of the division of engineering mechanics, Naval Underwater Systems Center, p. 52.

36. Explained in detail in a memo from Brian R. Gilmore, vice president, Community Services, Greater Hartford Chamber of Commerce, to Herbert W. Hansen, president of the Chamber of Commerce, November 30, 1981.

37. Letter from A. Bartlett Giamatti, October 14, 1981, p. 4.

Chapter IV--Business, Labor and Education (continued)

38. Ibid.

39. The Connecticut Academy of Science & Engineering, based in Hartford, was chartered to "provide guidance to the people and the government of the State of Connecticut . . . in the application of science and engineering to the economic and social welfare." Active membership is limited by statute to 200 distinguished scientists and engineers who live or work in Connecticut. Currently, members represent the physical, life and medical sciences, the social sciences and engineering. They come from academic, industrial and institutional communities in the state. Among topics that the Academy has addressed are oil spill technology, PCBs in the Housatonic River, nuclear plant capacity and air pollution in Connecticut. See Connecticut Academy of Science and Engineering, Prospectus.

40. The Department of Labor administers many government-sponsored programs training and placing people in jobs. The Apprenticeship and Training Division places people in apprenticeships and on-the-job training positions. See Anne Wingate and Jean Garde Parker, Unfilled Jobs, pp. 20, 22, 26. The Connecticut apprenticeship program is described in Occupational Projections and Training Data Annual Report. Fiscal Year 1982 (The Connecticut Labor Department, Employment Security Division, Office of Research and Information), p. 5.

41. Connecticut: Higher Education and the Business Community, p. 1, states that Connecticut institutions of higher education do "evaluations of industrial apprenticeship training for course credit." These remarks appear to be based on isolated arrangements.

CHAPTER V--ACADEMIC QUALITY AND ACCESS

1. According to Your Student Report 1981-82, a booklet prepared and produced by the Educational Testing Service (Princeton, New Jersey: College Entrance Examination Board, 1981), the Scholastic Aptitude Test (SAT) "measures developed verbal and mathematical reasoning abilities important for academic performance in college. It does not measure motivation, creativity, or other abilities or characteristics that may contribute to . . . success. . . ." (p. 2.)

2. Lynn E. Browne, "A Quality Labor Supply," New England Economic Review, Federal Reserve Bank of Boston, July/August, 1981, p. 12.

Chapter V--Academic Quality and Access (continued)

3. The University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, p. 13.

4. Ibid.

5. W. Lewis Hyde, executive director, board of trustees, state technical colleges, in written testimony submitted to the Commission, September 23, 1981, pp. 5-6.

6. Searle F. Charles, executive director, regional community colleges, in testimony before the Commission, October 1, 1981 (from transcript of recorded remarks, p. 10).

7. Public Act 78-194, C.G.S.A. Chapter 163c, effective July 1, 1978.

8. Connecticut Comprehensive Plan for Elementary and Secondary Education 1980-1985 (State Board of Education, 1980); Education and Work--An Agenda for Action: Connecticut's Plan for Vocational, Career and Adult Education (State Board of Education, 1981).

9. The Board of Higher Education, in written testimony submitted to the Commission, October 15, 1981, p. 20.

10. The University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, p. 24.

11. The State Board of Education, in written testimony submitted to the Commission, October 23, 1981, p. 6.

12. Doreen Frankel, in "An Analysis of Factors Affecting Migration of Freshmen Applicants at Selected Public Institutions of Higher Education in Connecticut," (Doctoral Diss., University of Connecticut, 1980), concludes in part: "Despite the rapid expansion of its higher education system as well as student financial assistance programs, Connecticut continues to be one of the top five states in student migration, losing approximately one half of its college-going high school graduates to other states. . . . The results obtained in the present study . . . suggest that for many students . . . the type of educational opportunity being offered is either not acceptable or is less acceptable than the opportunitities being offered by other institutions. . . . The assessment of institutional prestige clearly dominated the results of the . . . analyses and consistently appeared as a major factor in the decision-making

behavior of students. Students who elected to enroll at the institutions included in this study reported that prestige was a major consideration in their decisions. Similarly, students electing not to accept offers of admission reported that institutions they had chosen to attend were more prestigious" (pp. 185-6). The conclusions of this study were based on a multivariate discriminate analysis of data from a questionnaire sent to a stratified random sample of applicants accepted at the University of Connecticut, one of the university's branch campuses and one of the four-year state colleges, regardless of whether the applicants chose to attend the institution. Of 5,369 questionnaires mailed (50 percent of the population) 1,901 were completed.

13. In New Jersey and Florida, where state colleges and community colleges have introduced skills testing and remediation to raise standards, educators have noted that such changes did not cause a decline in minority enrollment. See Albert Bridges, "Trenton State Drawing High Caliber Students," The Trentonian, August 22, 1978, p. A-17. (Mr. Bridges is director of admissions at Trenton State College.) Articles supporting Bridges's assertion include: Robert Braun, "State Colleges Finally Realizing Goals on Admissions, Curriculum," Sunday (Newark) Star-Ledger, September 13, 1981; Malcolm G. Scully, "Entrance Rules Tightened at Some Public Institutions," Chronicle of Higher Education, December 9, 1981. Also Robert H. McCabe, president, Miami-Dade Community College, in a letter to Jacquelyn A. Mattfeld, executive director, Governor's Blue Ribbon Commission on Higher Education and the Economy, December 12, 1981, stated: "We have instituted a comprehensive program to deal with the essential issue of decline in academic skills of incoming students . . . . Our institution is 60% minority, and we have not experienced a decline in minority enrollment because of our actions."

An opposing view can be found in a written statement submitted to the Commission on December 7, 1981, by Commission member John Driscoll, president, Connecticut State Labor Council, AFL-CIO.

14. Howard R. Bowen, The Costs of Higher Education (San Francisco: Jossey-Bass, Inc., 1980), table 14, p. 121.

15. Marilyn McCoy and D. Kent Halstead, Higher Education Financing in the Fifty States: Interstate Comparison Fiscal Year 1976 (National Institute of Education, September 1979). The University of Connecticut ranked 21st, the state colleges 42nd and two-year institutions 44th in state and local appropriations per FTE student in fiscal year 1976 (table 23, p. 34, and table 34, p. 35).

16. In written testimony submitted to the Commission, October 8, 1981, David C. Newton, president, Connecticut State College--American Association of University Professors, stated: "In fact the system is staggering

now due to demonstrable lack of almost every resource from paper to library books" (p. 3). In testimony before the Commission, October 13, 1981, Joseph Adamaitis, president, Graduate Student Council, University of Connecticut, said: "In this year alone, 2,000 journal subscriptions were cancelled at our library. . . . Without these our graduate students will be behind the times and not as capable as they could be in solving current problems" (from transcript of recorded remarks, p. 115). In a letter to the Commission, January 2, 1982, David Kapp, assistant university librarian, wrote, "The acquisitions program of the University of Connecticut Library is in the process of being dismantled due to inadequate funding." In written testimony submitted to the Commission, October 13, 1981, the University of Connecticut noted: "Classroom and laboratory budgets have been compromised by a centralized state purchasing and warehousing system". . . .(p. 14). See also "UConn Libraries Too Broke to Buy Books," Hartford Courant, January 8, 1982, Section C, p. 11.

17. The state colleges, in testimony before the Commission, October 9, 1981 (from transcript of recorded remarks, p. 8).

18. W. Lewis Hyde, executive director, board of trustees, state technical colleges, in testimony before the Commission, September 24, 1981 (from transcript of recorded remarks, p. 19).

19. The community colleges, in written testimony submitted to the Commission, October 1, 1981, p. 20.

20. Dr. Gould made the suggestion October 9, 1981, in a meeting with the Commission's committee on governance and management.

21. D. Kent Halstead, unpublished analysis (Washington, D. C.: National Institute of Higher Education, Fall 1981).

22. According to Anticipating the 1980s: Report and Recommendations to the General Assembly on Higher Education in Connecticut (Hartford: Board of Higher Education, September 1, 1979): "Since 1972, tuition and fee rates have increased in an unpredictable and sometimes inequitable manner, based primarily on the need to offset sudden expenditure pressures" (p. 104).

23. A formula that assesses one-third of actual costs to the state, to the locality and to students is used to set tuition levels at the two- and four-year state colleges in Pennsylvania and at the two-year institutions in New York. New York considers inflation among the factors in setting tuition levels for state universities and four-year colleges. See "Tuition Setting and Use of Tuition Receipts in the Northeast States," staff document (Hartford: Board of Higher Education, Winter 1981).

Chapter V--Academic Quality and Access (continued)

24. With large federal cutbacks, there is concern that many middle-income students will shift from private to public institutions. John A. DiBiaggio, president of the University of Connecticut, asserts that the Storrs campus is attracting increasing numbers of middle-income students: "My fear is that such a trend would tend to modify the character of public institutions by increasing the number of affluent students enrolled and by diminishing access to students from more disadvantaged backgrounds" (see "After the Federal Cutbacks, A New Era in Paying for College," New York Times, Section 12, Fall Survey of Education, November 15, 1981, p. 33).

Though the precise effects of raising tuition have not been ascertained, studies have estimated that a lowering of price by $100 will increase enrollment among all students about one percentage point. In addition, applicants offered financial aid by the colleges of their choice are 8.5 percent more likely to attend college than similar applicants who are not offered aid. See G. A. Jackson, "Financial Aid and Student Enrollment," Journal of Higher Education, 49, no. 6 (1978): 548-574. Applicants awarded $100 more aid were 0.1 percentage points more likely to attend than were corresponding nonapplicants. High school seniors decide to go on to college on the basis of academic achievement, parental aspirations, and the quality of their high school. After the decision is made to attend college, the student selects the type of institution first according to its academic standards and then according to cost. Jackson suggests that applicants respond to total cost rather than net cost (after financial aid) because aid information is not available easily or early enough to affect selection.

25. Analyses of the federal cutbacks that provide the facts presented here include: "Financing American Higher Education," Background Paper #3 for the National Commission on Higher Education Issues, staff paper only, (Washington, D.C.: American Council on Education, October 20, 1981), and "After the Federal Cutbacks, A New Era in Paying for College," New York Times, Section 12, Fall Survey of Education, November 15, 1981, p. 33. Early estimates by the Board of Higher Education predict 12,000 Connecticut students will be affected by the cuts in Pell grants in FY 1982; 2,533 students in FY 1981 and 5,066 students in FY 1982 will lose Social Security educational benefits; and Guaranteed Student Loan Funds would be reduced by $10 million (see "Impact of the Proposed Federal Budget Cuts on the State of Connecticut" [State of Connecticut, Office of Policy and Management, April 1981], pp. 87, 88, 95).

26. Approval of Awards to Institutions Participating in the College Work Study, the Supplemental Educational Opportunity Grants and the National Direct Student Loan Programs (U.S. Department of Education, August 1981), p. III.

Chapter V--Academic Quality and Access (continued)

27. According to the Office of Student Financial Aid, Board of Higher Education, during the period 1978/79 to 1980/81, Connecticut's share of federal funds for student financial assistance increased from approximately $28,725,000 to $36,700,000. (These figures do not include federal funds appropriated to subsidize the Guaranteed Student Loan Program.)

28. According to the Office of Student Financial Aid, Board of Higher Education, in 1978/79 the state appropriated $12,225,000 to support 12 programs providing financial assistance to needy Connecticut residents attending postsecondary and higher education institutions. In 1980/81 the state appropriated $10,600,000 to 10 student financial assistance programs. Approximately $1,250,000 of the reduction in state support was due to the elimination of the forgiveness provision of the state's Guaranteed Student Loan Program. Despite requests to increase funds to support the remaining programs, these funds were not reallocated. In addition, funding to support the remaining 10 programs was reduced by $427,000. Thus, despite high inflation resulting in increases in tuition, fees, room and board and other student costs, the state has reduced its commitment to student financial assistance. Further reductions are anticipated for the next fiscal year.

29. Ibid.

30. "UConn Raises Student Fees; Night Law Tuition Up 34%," Hartford Courant, January 9, 1982, p. B1.

31. Tuitions as a percentage of total General Fund cost per FTE for out-of-state students currently amount to 20.5 percent at UConn, 24.5 percent at the state colleges, 32.9 percent at the state technical colleges and 40.0 percent at the community colleges. (Percentages are based on the data presented in appendices V-H and V-L.)

32. The University of Bridgeport's digest of a position paper, "Proposal for the Redeployment of Higher Educational Funding in the State of Connecticut," January 31, 1981, calls for a 40 percent decrease in General Fund support for the state colleges and the University of Connecticut. It further suggests that tuition at these institutions be increased by a compensatory amount. Using this method, the cost of education would be shared equally by the student and the state. The redeployment plan further recommends that the approximately $60 million in savings to the state should be directed as follows: $20 million for special financial aid to public sector students; $20 million to the independent colleges for increasing funding for the purchase of programs and spaces in independent colleges, for increasing financial aid funding for Connecticut students attending independent institutions (Public Act 551) and for the funding of a program establishing

state-related institutions; and $20 million net savings. See Leland Miles, "Proposal for Redeployment of Higher Educational Funding in the State of Connecticut," Position Paper, Third Draft (January 31, 1981).

33. The Connecticut Conference of Independent Colleges (CCIC) endorsed increased support for the program providing grants to Connecticut students with financial need attending independent colleges in the state (P.A. 551). That program is currently funded under state statute 10-331. Dr. Colin Campbell, president of Wesleyan University, testifying for the CCIC before the Commission, October 15, 1981, also suggested legislative authorization for the creation of a state loan program similar to one recently enacted into law in Illinois: a consortium of institutions would "issue tax-exempt bonds to increase loan availability for students attending colleges in Connecticut" (from transcript of recorded remarks, p. 36).

34. The Board of Higher Education had recommended such a proposal in its report, Anticipating the 1980s, p. 107. Variations on this and other tuition proposals related to actual cost were discussed at length by the Commission's working committees as well as at full Commission meetings.

35. "Higher Education Prices and Price Indexes: 1981 Update" (Research Associates of Washington, September 1981), defines the Higher Education Price Index as follows: "A price index series measures the effects of price change, and price change only, on a fixed group of items. The procedure in calculating the index is to measure price change by repricing each year comparing aggregate costs of goods and services bought in the base period. . . . The Higher Education Price Index (HEPI) measures average changes in prices of goods and services purchased by colleges and universities through current-fund educational and general expenditures" (p. 1).

36. Data on student financial assistance provided by the Board of Higher Education; the figure of $4,450,000 was the FY82 appropriation for aid under Public Act 551.

37. Data for 1976/77 and 1981/82 student financial assistance provided by the Board of Education. Higher Education Price Index (HEPI) increases used in the projection are from Research Associates of Washington, 1981 update, September, 1981.

38. Anticipating the 1980s, p. 47.

39. "Minority Enrollment in Connecticut Institutions of Higher Education," BHE Reports, R-2-81 (Hartford: Board of Higher Education, May 1981), pp. 5, 6.

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40. Ibid, p. 7.

41. "Minority Pupils and Staff in the Connecticut Public Schools," Connecticut State Department of Education (October 1, 1980), p. 5.

42. "Minority Enrollment in Connecticut Institutions of Higher Education," p. 5.

43. Ibid., table 3, p. 6.

44. This revision was Public Act 81-157. Prior to the legislative enactment, a BHE survey in December 1980 had confirmed that minority groups were underrepresented among state scholarship program recipients. For example, only two percent of 1980/81 State Scholarship recipients were Black and only 1-1/2 percent were Hispanic. An analysis of the academic screening criteria, which at present place heavy emphasis on both rank in class and performance on standardized aptitude tests, indicated that many minority students who were high in the rank-in-class category failed to qualify for the program because of their performance on standardized aptitude tests. This precluded their passing the initial academic screening, and they were eliminated from further consideration. By basing the academic screening in the Scholastic Achievement Grant Program on rank in class or performance on standardized aptitude tests, this program will presumably have a more representative racial/ethnic profile.

45. The University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, pp. 19-20.

46. James Frost, executive director, Connecticut state colleges, in testimony before the Commission, October 9, 1981 (from transcript of recorded remarks, p. 26).

47. In written testimony submitted to the Commission, October 13, 1981, Rose Quezado of the Connecticut Association of Latin Americans in Higher Education noted that adequate counseling services are unavailable for Hispanics. She cited a lack of appropriate counseling from the elementary level through high school and college. She also pointed out that the lack of counseling services extended to financial aid information (p. 2). In testimony before the Commission, October 13, 1981, University of Connecticut President John DiBiaggio said that minorities and other educationally disadvantaged students could benefit from "improved and expanded counseling and tutorial services in high schools and universities" (from transcript of recorded remarks, p. 25).

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48. According to "Higher Education Staff Information Survey," BHE Reports (Hartford: Board of Higher Education, July 1980), p. 2: "In the Faculty category, 5.3 percent are minority employees, with 1.6 percent Black, 1.1 percent Hispanic and 2.5 percent Other. Minority faculty employment ranges from 5.8 percent at the University to 2.2 percent at the State Technical Colleges" (p. 2).

49. Higher Education Capital Budget Request FY82-83; Allocations Priority List FY81-82; Five Year Facilities Plan 1982-1987 (Hartford: Board of Higher Education, September 29, 1981).

50. Various court decisions have done little to clarify the responsibilities of higher educational institutions. In Crawford v. University of North Carolina, 440 F. Supp. 1047 (M.D.N.C. 1977), an injunction directing the university to pay for interpreting services for a deaf student is warranted pending administrative resolution of student's complaint by Department of Health, Education and Welfare. In Barnes v. Converse College, 436 F. Supp. 635 (D.S.C. 1977), section 504 obligates private college receiving federal assistance to provide auxiliary aids to handicapped students. Subsequently, the court dissolved the injunction, finding that the plaintiff did not exhaust administrative remedies. In University of Texas v. Camenisch 49 U.S.L.W. 4468 (April 28, 1981), the Texas Supreme Court remanded the case and noted "the question of whether the University must pay for the interpreter remains for trial on the merits." In Schornstein v. New Jersey Department of Vocational Rehabilitation, 519 F. Supp. 773 (1981), New Jersey Vocational Rehabilitation must provide interpreter services for its client attending college. The judge did not address the college's responsibility under Section 504.

51. The two major federally funded rehabilitation agencies in Connecticut are the Division of Vocational Rehabilitation and the Bureau of Educational Services for the Blind, both of which are funded 80 percent by federal monies and 20 percent with state matching funds.

52. See "A Statement Concerning Transfer from Two-Year Collegiate Programs, Issued Jointly by the Boards of Trustees for the Connecticut State Colleges and the University of Connecticut" (unpublished) May 22, 1981, p.3; Merle Harris, assistant commissioner, Board of Higher Education, in background paper, "Transfer, Upper Division Programs, Entrance and Exit Standards," submitted to the Commission, September 28, 1981, p. 2.

53. The Board of Trustees of the State Colleges, State of Connecticut, adopted resolutions prior to 1976, on December 13, 1972, and on June 13, 1975. The June 4, 1976 resolution, number 76-55, is entitled "A Statement Concerning Transfer from Two-Year Collegiate Programs Issued Jointly By the Boards of Trustees for the Connecticut State Colleges and the University of Connecticut." Signers of the 1976 State Transfer Articulation Agreement are listed in College Transfer 1978: A Guidebook for Students and Counselors (Hartford: Board of Higher Education, 1978), p. 59.

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54. Merle Harris, background paper: "Transfer, Upper Division Programs, Entrance and Exit Standards," p. 1.

55. See "A Statement Concerning Transfer . . . ," May 22, 1981.

56. According to the Board of Higher Education, these regional groups were unsuccessful generally because they were inadequately staffed. Two were funded under State Public Act No. 140 and gathered materials for students to learn about the region's available programs. Only one, the North Central Coordinating Committee, is still operating today.

57. According to Merle Harris, assistant commissioner, Board of Higher Education, Hartford, Connecticut.

58. Proposals for regionalization of Connecticut's higher education system were submitted to the Commission by the following: Paul J. Best, for Concerned Faculty Members and the Faculty Senate of Southern Connecticut State College, October 9, 1981; H.B. Jestin, vice president, academic affairs, Central Connecticut State College, October 12, 1981; John LeConche, The Connecticut Advisory Council on Vocational and Career Education; and William E. Vincent, president, Manchester Community College, who in a letter to the Commission, September 21, 1981, stated: "I believe the citizens of Connecticut will be best served by a diverse system of higher education consisting of public and private institutions linked by shared resources, better program articulation, and common purposes. This could be accomplished through a system of regional planning councils for higher education." See also Leland Miles, A Plan for Progress: A Public/Private Partnership for Higher Education in Southwestern Connecticut (University of Bridgeport, November 29, 1979).

59. A Prospectus for Educational Technology in Connecticut, A Report of the Task Force on Instructional Technology to the Board of Higher Education (July 1980).

60. The University of Connecticut, in written testimony submitted to the Commission, on October 13, 1981, stated: "The University has set as a high program and budget priority computer literacy, including aspects of an electronic library. . . . The intent of such a program is to provide every undergraduate with a range of learning opportunities which utilize computer assistance. Library research, computer-assisted instruction, computer-mediated instruction, computer graphics, programmed instruction and computer-managed instruction are parts of the literacy program" (p. 18).

61. Ibid.

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62. The University of Connecticut, in written testimony submitted to the Commission, October 13, 1981, stated: "The University is the key element in statewide library and computing networks serving the other segments of postsecondary education . . . . (p. 18). The University Library was a founding member of NELINET, the New England Library Information Network, a shared cataloging and bibliographic information service. The university library was also instrumental in initiating the CTUW project whereby the libraries of Connecticut College, Trinity College, the University of Connecticut and Wesleyan University use telecommunications to facilitate access for faculty and students to materials and services at Yale and in each other's libraries. Academic libraries are also actively involved in the aforementioned six regional Cooperating Library Service Units (CLSU), which are multi-type library cooperatives. These units are now the focus for the cooperative development and use of computer and telecommunications technology in library systems designed to avoid unnecessary duplication in holdings and to facilitate access to library resources throughout Connecticut [and for] provision of interlibrary loan and photocopy services to patrons of other libraries" (pp. 3-4, appendix P). Connecticut companies receiving interlibrary loan and photocopying service from the University of Connecticut libraries are: Aetna Life and Casualty; American Cyanamid Company; AMF, Inc.; Boehringer Ingelheim, Ltd.; Chesebrough-Ponds, Inc.; Combustion Engineering, Inc.; Dexter Corporation; Ensign-Bickford Industries, Inc.; Loctite Corporation; Novo Laboratories, Inc.; Perkin-Elmer Corporation; Pfizer, Inc.; Pitney-Bowes, Inc.; Research Corporation of New England; Rogers Corporation; Standard Brands, Inc.; Travelers Insurance Companies; Uniroyal, Inc.; United Technologies Research Center; Upjohn Company; Volarc Tubes, Inc.; and Zygo Corporation (p. 4, appendix P).

63. For discussions of libraries' problems, see Patricia Battin, "Research Libraries in the Network Environment," The Journal of Academic Librarianship, vol. 6, no. 2 (May 1980): 68-73. A memo of October 15, 1981, to Jacquelyn Mattfeld, executive director of this Commission, from Antonia C. Moran, state coordinator of the American Association of University Professors, contains a lengthy description of "Management of Shared Learning Resources," by Oliver R. Hayes, director of library services, J. Eugene Smith Library, Eastern Connecticut State College. Also, Dr. Vivian H. Shortreed, director of library services, Quinebaug Valley Community College, spoke about the growing interdependence of business and academic libraries, in testimony before the Commission, October 1, 1981 (from transcript of recorded remarks, p. 96).

64. Samuel Gould, member of the Florida Postsecondary Education Planning Commission and former chancellor of the State University of New York, in a statement made during a meeting of the Commission's committee on governance and management, October 9, 1981.

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65. The Comprehensive Program: Information and Application Procedures, Fiscal Year 1982 (Washington, D.C.: Fund for the Improvement of Post-Secondary Education, FIPSE).

66. Three Thousand Futures: The Next Twenty Years for Higher Education, Final Report of the Carnegie Council on Policy Studies in Higher Education (San Francisco: Jossey-Bass, Inc., 1980), p. 122. This Carnegie Council report sees support for programs like FIPSE as encouraging dynamism and experimentation. Encouragement of this sort (as has already been done by Florida and California) is particularly important in the context of "management of decline." "One tendency is to preserve the status quo in the short run, thus sometimes encouraging even further decline in the long run. . . . Decisions on campus are mostly made on a consensus basis and involve several veto groups. Preservation of the status quo may be the only possible rallying point for a consensus. Also, historically, change has been a product of growth; has come by way of add-ons. . ." (p. 102). "Governmental controls at the state and federal level . . . are also reducing possibilities for dynamic change, making it harder to achieve, making it more costly in time and resources, tying up efforts in reporting and accounting. The aging faculties, the emergence of new veto groups and the spread of collective bargaining add new rigidities" (p. 103).